'It's Important to Know In Time'

Member Associated Business Papers, Inc.; Audit Bureau of Circulations.

The Newspaper of the Industry

Air Conditioning & REFRIGERATION NEWS

Production Tools for Victory

AN INTERNATIONAL INSTITUTION ★ SUBSCRIBERS ALL OVER THE WORLD ★

Technical Governmental

Reentered as second-class matter October 3, 1936 at the post office at Detroit, Michigan, under the Act of March 3, 1879. Trade Mark Registered U. S. Patent Office.

'Written To Be Read on Arrival'

Issued Every Monday at Detroit, Michigan

SEPT. 27, 1943

Vol. 40, No. 4, Serial No. 758
Established 1926.

Inside Dope

By George F. Taubeneck

It's Coming!
Refrigeration Abroad
99,500 Halfbacks
John-the-Baptist
Lou Maxon
Good Men Needed
Watch This Gang
Top Rating
Ensign Gauen
Army Farmer

It's Coming!

Fighting in Italy, while terrible and sharp, is still just a "preliminary" bout to the main "goes" ahead. Only a fraction of our overseas forces is committed. Bigger pushes are ahead.

Eisenhower has the forces, the materiel, and the strategic situation to launch new invasions on many points. They could come any time.

As for the Pacific, when the heavier striking units of the Mediterranean fleets arrive, the Japs can expect hailcolumbia. Our own Navy is vastly strengthened in that theater, and our Navy considers the Japs their special dish, and the Pacific their private war.

Our battle fleet was designed for war against Japan, and all our training and strategical planning for decades has been for that particular fight. Apparently all they're waiting for is more airpower.

People who say that the Italian navy will be of no use to us because their ammunition is different overlook the fact that in time we may be able to put Italian arsenals to work making that ammunition for those ships.

Refrigeration Abroad

We're getting all set to ship all sorts of civilian supplies to Italy. This is considered excellent strategy, in that other conquered countries will see the contrast between American occupation and German oppression. The Germans looted; we shall come bearing gifts.

This means that modest quantities of refrigeration equipment will be needed for Italy, as for other territories we may occupy—all on Lend-Lease.

99,500 Halfbacks

One of our "constant readers," preferring to remain anonymous, has sent us the following piece of good reading. It makes sense:

"It is interesting to think back to the good old days when college football players trained in the summer months by delivering ice to the millions of American homes using ice boxes. How we wish the war was over and the boys could get back to a job like that.

"What an opportunity they would find if it were not for the 19,900,000 mechanical refrigerators in use in American homes as of Dec. 31, 1942.

"Even a flashy halfback would probably be badly fagged if he carried ice to 100 customers in an eight-hour day. At that rate he could make 600 calls per week. (Six day week; time and one-half for Saturday).

"In the hot weeks of the summer months, he would probably have to make three trips a week on each of his customers so he could only call on 200 different customers per week.

"According to my mental arithmetic, which I admit is pretty bad these days, there would have to be 99,500 of these flashy halfbacks to serve the 19,900,000 mechanical refrigerator customers, and each would have to drive at least a ton and one-half truck, perhaps as much as 10 miles per day.

(Concluded on Page 11, Column 1)

Electrical Leagues Describe Handling Of Service Manpower Problems

CINCINNATI — Appliance dealers' troubles today are 80% personnel, and only 20% parts and materials.

Philadelphia vocational schools, teaching appliance repair courses, are now operating on 24-hour schedules.

"Swap your old appliances for war stamps" campaigns in major cities are bringing in thousands of appliances for repair and resale at a profit for everybody concerned.

Prefabricated homes promise the biggest postwar market to the industry, with a prospect of 900,000 new homes being built every year during the decade following armistice.

These were major points made at the eighth annual conference of the International Association of Electrical Leagues, held Sept. 16, 17, and 18 at Cincinnati's Netherland-Plaza hotel.

Wartime electrical activities and trends toward postwar services dominated the discussions, led and attended by representatives of more than 40 electrical leagues throughout this country and Canada, and officers and a board of directors were chosen for the coming year.

Highlights of the conference bearing on air conditioning and refrigeration activities will be noted in this report. A comprehensive resume of the conference's discussions and decisions will be detailed in the NEWS' next regular-sized issue.

Thursday morning, Sept. 16: Chairman Jack Bartlett, managing director of the Electric Institute of Washington, D. C. The opening address, by John Morrison, managing director of Philadelphia's league, pointed up the opportunities and obligations of the association as a whole.

Before the war, he reminded those present, the leagues' activities were mainly promotional. Today, and for the duration, they face three specific responsibilities:

1. To back the war effort to the fullest of their combined abilities. 2. To keep alert for changing trends in business activity and in public opinion. 3. To keep the electric industry in the public eye.

Various aspects in the maintenance of servicing and repair facilities for electrical appliances and equipment were discussed by J. Clark Chamberlain, secretary-manager of San Kiego's Bureau of Radio & Electrical Appliances.

The energy of jobbers and distributors and dealers' associations have kept manufacturing production rolling to an extent that getting parts and materials has become much less a problem than the retaining of men from the call of big-pay war jobs, and the call of the armed forces.

The proportion throughout the country has become pretty generally 20-80. Only recently has Selective Service begun to defer essential supervisors and repairmen. As a result, West Coast dealers within the association have got together to work out a specific program against the breakdown of appliance maintenance and repair.

Training courses have been begun by the women's civilian defense organizations. But this takes time, and there is no substitute for trained service experience. The association has gone all out in working on deferment of experienced men as essential to appliance servicing.

These activities have been supplemented by intensive advertising. More than 80,000 booklets have been circulated on the better home care of appliances. Newspaper advertisements have appealed against calling overworked repairmen to private homes, and against having appliances overhauled before repair actually is necessary.

A similar program has been planned for the New York City area,

(Concluded on Page 4, Column 1)

Servel Shifts Key Personnel, Expands Postwar Lines

EVANSVILLE, Ind. — To prepare for "rapid postwar development of many diversified products" Servel, Inc. has made five major changes in its executive personel, reports Louis Ruthenburg, president.

Harry Newcomb, formerly vice president in charge of the company's electric refrigeration and gas water heater divisions, has been appointed vice president and assistant to the president.

Vice president in charge of finance is the new position held by North I. Townsend, formerly secretary and treasurer. Rudolph Schnakenburg, former comptroller, becomes secretary and treasurer.

W. F. Hassee, chief accountant, has assumed the comptroller's post, while Henry O. Roberts, personnel director, will now be responsible for personnel administration in all divisions of Servel, reporting to the president.

Other Servel vice presidents will retain their present responsibilities: George S. Jones, Jr., vice president in charge of sales; W. R. Hainsworth, vice president in charge of engineering; W. E. Baker, vice president in charge of manufacturing; and Harry A. Strong.

A complete new line of commercial electric refrigeration products and gas water heaters, its gas refrigerator, and other appliances such as the recently announced all-year gas air conditioning unit for homes and small commercial establishments are included in Servel's postwar manufacturing plans, it is reported.

"It is important that in time of war we must prepare for peace," explained Mr. Ruthenburg. "A vital part of our immediate postwar planning must be for the maintenance of high levels of productivity and employment. Such planning for peace,

(Concluded on Page 20, Column 1)

Detroit A.S.R.E. To See Navy Film Premiere

DETROIT—Charles Logan, national president of the American Society of Refrigerating Engineers, will discuss "Your A.S.R.E." at the Oct. 4 meeting of the Detroit Section to be held at the Rackham Foundation here. Special feature will be the premiere showing of the new Navy sound film, "Life and Death of the Hornet."

Lieut. Schuyler Patterson, U. S. Naval Reserve, will present a Navy program highlighted by the movie of the famous aircraft carrier. Pfc. T. Cunningham, U. S. Marine Corps, who recently returned from Guadacanal, will give a first-hand account of "War in the Pacific."

The meeting will be in charge of Ed Kellie, chairman of the Detroit Section.

Maher Leaves R. Cooper, Joins G-E In West

LOS ANGELES, Calif.—S. B. Maher, who recently resigned as vice president and general manager of R. Cooper, Jr., General Electric Co. distributor in Chicago, has joined G-E. For the next three months he will make a survey on the Pacific Coast after which he will be located here. Mr. Maher had been connected with the Cooper organization for the past 13 years.

Change in Requirements For New Locker Plants Revealed at Meeting

Revised P-126 Text In This Issue

Complete text of Preference Rating Order P-126 (material for emergency servicing of industrial and commercial refrigerating and air conditioning systems) as amended Sept. 15 is published on page 8 of this issue of Air Conditioning & Refrigeration News.

The amendments practically constitute a complete revision of the Order P-126, removing the licensing provisions and setting up a new rating pattern, and a new type of certification for ratings. Every person who does commercial refrigeration service work should familiarize himself with this order.

Failure To Fill Out the Applications Correctly Sends Many Back

DES MOINES, Iowa—Three major impressions were carried away from the first day-and-a-half sessions of the annual meetings here of the National Frozen Food Locker Assn., and the Frozen Food Locker Manufacturers and Suppliers Assn.:

1. The War Food Administration has been overrun with applications for new locker plants or expansion of existing plants since the "metals bank" program to provide equipment for such plants was approved, but only about one of every 15 applications has all the forms correctly filled out, thus too many have to be returned to the applicant for correction and re-filing.

2. Many present-day locker plant operators and contractors report demands in their territories that would justify the erection of from two to 10 plants right now—if materials were available. The Manufacturers and Suppliers group will shoot for a '44 program of locker plant expansion considerably larger than this year's.

3. While there is no question that the present demand for refrigerated locker service has been stimulated by the problems of food rationing, there is plenty of evidence that the locker plant field will have a consistent growth in the immediate postwar era, with some economic authorities viewing it as a factor leading to some needed changes in our agricultural economy.

Some of the "requirements" established by the War Food Administration for new locker plant applications have been revised, it was revealed.

In the matter of requirements on plant size, there is a reduction from 3,990 cubic feet of refrigerated locker storage room space to 3,250 cubic feet. The number of lockers required is reduced from 300 to 250.

If he desires, an applicant can submit a complete application to the WFA, except for the advance locker rental requirements, making note of this exception. If the WFA finds that all the other requirements are met, the applicant can then procure the advance number of rentals required to complete the application.

This is done to help the applicant who doesn't want to go to the trouble of obtaining advance rentals until he is sure that his plan gets at least tentative approval.

Some provision is being set up to give a "credit" to operators of existing plants who wish to apply for an expansion, so that the advance rental requirements will be reduced.

Just how this will be determined is not quite settled as yet, but the amount of refrigerated space per user will be a determining factor.

This means that existing plants wishing to expand who have an average of 13 cubic feet of refrigerated space per user might be allowed a "credit" of 30% against advance rental requirements (in other words a locker plant of 300 lockers could count on 90 lockers applied for in the expansion application on which the advance rental requirements needn't be considered).

On the other hand, a plant with an average of 18 cubic feet of locker storage space per user would get no "credit" and possibly not much of any chance of approval for expansion.

There has also been some clarification and a little liberalization of the "requirements" regarding "distance" of new or expanded plants from large cities, etc.

The WFA will now give consideration to a plant that is within 25 miles of a city of 75,000 population,

(Concluded on Page 2, Column 1)

Kelvinator Largest Propeller Producer; Awarded 'E' Flag

LANSING, Mich.—Nash-Kelvinator Corp. is now the largest manufacturer of propellers in the United States, and probably in the world, Army Air Forces officials revealed when the Propeller Division of the company was presented with the Army-Navy "E" award at the Mount Hope avenue plant here Sept. 17.

In August, 1941 the Propeller Division consisted only of a contract and two empty buildings, but seven months later, in March, 1942, the company had shipped its first carload of propellers, Campbell Wood, general manager of the division, said.

Two plants produce exclusively the Hamilton Standard variable pitch propeller of the type used on the U. S. Army Air Forces' Flying Fortress, Liberator, Mitchell, Havoc, and Baltimore bombers, and the transport planes Skytrain and Skytroopers, as well as Britain's Lancaster and Mosquito bombers.

A third plant in Grand Rapids, Mich. supplements this production and specializes on the finishing of propeller blades.

Col. Alfred H. Johnson, supervisor of Central Procurement District, U.

(Concluded on Page 2, Column 5)

Some Dates Changed On Stove Rationing

WASHINGTON, D. C.—The period during which dealers and distributors may surrender certificates to their suppliers for rationed stoves that were contracted for before Sept. 1 has been extended for an additional 15 days—through Sept. 30—the OPA announced.

This extension, provided in Amendment 1 to Ration Order 9A, effective Sept. 16, 1943, gives dealers and distributors more time to get inventory certificates from their War Price and Rationing Boards, and submit them to suppliers to cover stoves contracted for before Sept. 1.

OPA emphasized that the provision does not authorize the granting of "certificate credit" beyond Sept. 15. After this date no stoves may be shipped on contracts made before Sept. 1 unless certificates are surrendered in advance of shipment. Under the amendment stove contracts entered into before Sept. 1

(Concluded on Page 2, Column 5)

Failure to Prepare Applications Correctly Slows Locker Plant Authorizations

(Concluded from Page 1, Column 5)

but only where a high proportion of the equipment to be employed is "used" equipment.

There is nothing in the "requirements" that specifies any required distance between a proposed plant and an existing plant.

For Towns of 25,000

The "15,000 population" limit may in some cases be over-ruled to permit plants in towns up to 25,000 in population—but here again the applicant will probably only have a chance if he can show that a considerable amount of used equipment is to be installed.

The failure to make out the forms properly seems to be one of "omission." The advice is— when in doubt put the item on as many of the forms as the item might possibly have any reason to be on.

One of the bottlenecks on the processing of applications is the Construction Division of WPB, which processes the Construction Form WPB-617 which is required with the application.

Everything that is to be used in the construction and equipping of the locker plant should be put in Form WPB-617, but those items for which priorities are obtained by application on a special form should be so noted.

For example, an item like a scale should be listed on Form WPB-617, but probably with a line in parentheses just beneath it which points out that the priority for the scale is to be obtained by the use of another form.

Form 617 Sticks 'Em

It is also advised to enter some items on the Construction Form 617 for which priorities are needed—such as nails or water piping, because if there are items on the forms for which priorities are needed it speeds the processing of the form.

Care should also be taken to fill out correctly and completely Form WPB 2449 (formerly PD-830) on which the refrigeration equipment is listed.

The applicant should list the compressor, evaporator, controls, valves, and any accessories that form a part of the system (but not wiring) and then list **the net selling price of this equipment.** Freight or installation charges are excluded. The WPB then takes approximately two-thirds of this figure as the charge to be made against the "metal bank."

Latest thinking seems to be also that insulation, cold storage doors, and erection asphalt should be listed on the refrigeration form WPB 2449, but cost of these items are not to be included in the "net selling price" figure. The Manufacturers and Suppliers' group urged those who might be applying to be particularly careful not to include any items in the net selling price figure of refrigeration equipment that did not belong there. Point of this is that the inclusion of such items cuts needlessly into the "metal bank."

While manufacturers generally have been supplying metal lockers for locker storage plants without a priority, a plea was made that applicants list their locker requirements on WPB 2449, to get a rating if possible.

Priorities for Lockers

Reason for this is that locker manufacturers are apparently getting a cut on the reject or "seconds" sheet steel that they have used to make lockers. Also, there is no allotment in sight for them under CMP for the fourth quarter, according to some of those present at the meetings, and thus they are in need of rated orders.

Here are some other points about "locker plant priorities" that came up during the various sessions. The statements are not "official" interpretations, but are gleaned from the experience of both those who have submitted and those who have processed locker plant applications:

There is nothing in the requirements that says that a new building cannot be constructed to house a new or expanded locker plant, but it is known that the Construction Division frowns on such new building construction, not so much from the standpoint of materials as of the labor that would be involved.

Power saws have become difficult to obtain, because they were recently placed under a new limitation order. There seems to be considerable confusion over just what the locker plant applicant is to do to get a power saw, but one very good authority stated that if the applicant listed it on both the WPB 2449 and WPB 617, it would likely get a rating by which the applicant could get a saw.

The size of the plant applied for has no particular bearing on whether or not the application will be granted, if all the established requirements are met.

Branch Plants May Be Less

Branch plants calling for less than the established minimum of 250 lockers are eligible for authorization if they meet all requirements.

WPB forms for the locker storage plant applications should be obtained from the nearest WPB offices, if possible. If not available there, the applicant should write to Washington. Form 40-R-492 should be obtained from the County War Agent, but if not available there, they can probably be obtained by writing S. D. Warrington, Senior Agricultural Economist, U. S. Department of Agriculture, Washington.

Applications which call for an expansion of existing facilities, wherein a good part of the present refrigeration capacity can be applied to the new expansion, will probably be given favorable consideration.

Of the applications authorized thus far under the "metal bank" program, about 60% are for new plants, and 40% for expansion of existing plants.

The number of families that will be using the new facilities should be included in the application. This is important, because it is one of the factors which the WFA checks closely.

No steel has been "programmed" for the manufacture of smokehouses to be used for locker plants.

The MRO AA-1 rating under CMP 5 can probably be applied on the lockers needed, but the total cost must stay within the $500 for each yearly quarter limitation.

One case was cited wherein a locker plant wished to add to its facilities to handle a request from the Army for storage space. In this case the priority should have been obtained directly from the Army, and no application submitted which would take anything out of the "metal bank."

Average Size Increasing

Average capacity of locker storage plants is increasing, according to Department of Agriculture surveys. The Department's survey revealed that the average capacity of a plant was 328 lockers. In 1943 the average was 348 lockers.

Something of an issue was raised over the rule against authorizing a new plant for less than 250 lockers, particularly where it would operate in conjunction with an existing business, such as a grocery store or the like, in which little additional manpower would be required.

The one answer to this seemed to be that the administrators had to draw a line somewhere, and since it is their opinion generally that the larger plants are more economic and efficient than the smaller plant, the 250-locker lower limit was set.

Prof. Harry Carlton of the University of Tennessee raised this question during the debate.

"Isn't a plant of 50 lockers just as valuable to a community that has need for it as a plant of 300 lockers is for a community whose size justifies it?"

In the agricultural southeast particularly there is need for these smaller types of plants in the scattered population areas, Prof. Carlton said.

The meeting of the Frozen Food Locker Manufacturers and Suppliers Assn., really the first annual convention of the association since the meeting last spring was strictly an organizational affair, drew an attendance of at least 90% of the manufacturers, suppliers, and locker storage contractors who comprise the membership. Several new applications for membership were submitted during the convention.

The Manufacturers and Suppliers Group, which can claim a major share of the credit for the government-approved locker storage expansion program now in effect, took stock of the continuing demand for plants which the present program will come nowhere near filling, and will make a study to determine how many plants will be needed to take care of the demand.

Propose Aid to Contractors

Other proposals discussed by the manufacturers - suppliers - contractors group included the publication of some general standards for locker plants in a booklet form, and ways and means of giving recognition to contractors who are members of the Association. Several suggestions were advanced, and the officers indicated that these would be followed through with definite programs that will provide advantages and recognition for the field contractors who become members of the association.

Under the deft handling of L. A. DeMore of Dole Refrigerating Co., president of the Frozen Food Locker Manufacturers and Suppliers Assn., the joint meeting Monday night, Sept. 20 between members of this group and members of the National Frozen Food Locker Assn. was a meaty, fast-moving affairs which turned up a lot of information for those in the jam-packed ballroom of the Ft. Des Moines hotel.

Most of the discussion centered about priorities, applications, etc. with the top government authorities on lockers and the best experience among the industry executives tackling all kinds of problems.

How Many Plants Ultimately?

One interesting part of this program was devoted to some prophesies as to the potential number of locker plants that the country might absorb. Roger Sprague of Baker Ice Machine Co. made a rather definitive guess of 12.870 plants, based on a survey he made on the basis of the 1940 census.

Senator Aiken of Vermont has predicted that the country can use 50 000 plants. One other prognostication from a good source put the figure at 10,000 new plants in the next five years.

The question was thrown open on the floor as to what possible effect advances in home freezer-storage units might have on the industry. No one would rise to speak on either side of this subject.

Kelvinator Lauded On Propeller Job

(Concluded from Page 1, Column 4)

S. Army Air Forces, presented the award, which was accepted by Mr. Wood. Presentation of the Army-Navy "E" pins was made by Commander W. F. Eade, Naval Aircraft, Detroit District with the assistance of a war veteran wounded in action. John Haruska accepted the pins on behalf of the employes.

Radio Commentator Austin Grant of WWJ, Detroit, acted as master of ceremonies, while the Army Air Forces Band entertained the participants.

Nash-Kelvinator is producing, in addition to propellers, the Pratt & Whitney 2,000 hp. aircraft engine, propeller control governors, parts for submarines, ships, tanks, trucks, and trailers, as well as a most important secret unit of ordnance for the Navy. Recently the company undertook mass production of the Sikorsky helicopter.

Extension Is Given On Stove Certificates

(Concluded from Page 1, Column 4)

will not be cancelled until Oct. 1 for reason of failure of the dealer or distributor to surrender ration certificates.

OPA pointed out that, some dealers and distributors who filed registration statements with War Price and Rationing Boards on Sept. 1, 2, and 3 have not yet been issued their inventory certificates. It is now expected that these certificates will be issued in time for dealers and distributors to forward them to their suppliers by Sept. 30.

The provision in the new amendment applies only to transfers within the trade, OPA emphasized. It does not affect the requirement, effective since Aug. 23, that consumers present ration certificates obtained from a ration board when making a stove purchase.

Kelvinator Surveys Ice Cream Cabinet Operating Costs

DETROIT — Accurate information on maintenance costs of the 600,000 ice cream cabinets now in use not being available, Nash - Kelvinator Corp. has designed an Inventory Control and Service Record program which it hopes will help in determining actual costs to permit economies, reports E. R. Legg, Kelvinator sales manager.

Cost estimates ranging from four to 20 cents a gallon were made by ice cream manufacturers for maintenance of the cabinets, totalling upwards of $40,000,000 a year, according to the survey, which was made on the assumption that the margins of profit on ice cream now decreased by wartime costs and difficult operating problems may continue to shrink in the postwar period.

If economies of only one cent per gallon could be effected through more efficient operation, the savings would exceed $4,000,000 annually, Mr. Legg believes.

Five simplified forms based on study of dozens of various forms already in use have been designed by Kelvinator for the ice cream industry. They are:

1. Cabinet Inventory Record — to maintain record of location of every cabinet owned.
2. Service of Inspection Report— to keep track of service calls and maintenance costs.
3. Order for Installation or Removal—to maintain "traffic records on cabinets.
4. Information Folder — to maintain a "file folder" for all information on each retail stop.
5. Identification Tag — to attach permanently to each unit as a field record.

These forms are offered to the ice cream industry at cost, or Kelvinator will help manufacturers adapt them to their individual use free of charge, Mr. Legg said.

A brochure describing the entire plan and showing each of the cards is now being sent to ice cream manufacturers throughout the country.

Penn Switch 'E' Award Is Renewed By U.S.

GOSHEN, Ind. — Employes and officials of Penn Electric Switch Co. have again been honored by the Army-Navy Production Board by the renewal of their Army-Navy "E" Award. This second coveted award is in the form of a white service star affixed to the "E" Flag and signifies continued excellence in the production of war material.

A large part of Penn's production output is the manufacture of complete electrical control circuits for naval guns. In addtion, approximately 85% of the company's peacetime automatic controls have also gone to war. These include controls for heating, refrigeration, pump and air compressor applications as well as safety controls for internal combustion engines.

First Star Added To Cutler-Hammer Flag

MILWAUKEE, Wis. — Continued high production of war materials during the past six months has won for Cutler-Hammer, Inc. here permission to continue flying its Army-Navy "E" pennant, to which has been added a star. All employes added to the five Milwaukee plants of the company since the original award was made will be furnished with lapel pins.

Clinton Brown Named To Counselor's Staff

CHICAGO — Clinton Brown has been appointed an account executive on the staff of Jos. W. Hicks, public relations and industrial relations counsel here.

For the past 15 years, Mr. Brown has served as publicity and publications director, also directing sales campaigns and sales training for the Edison Hotpoint Co.

Fogel Agrees to Stop Using the Words 'Lifetime Vision'

PHILADELPHIA — Use of the words "Lifetime Vision" or similar words in connection with its refrigerated display cases will be discontinued by Fogel Refrigerator Co. here, in a recent stipulation with the Federal Trade Commission.

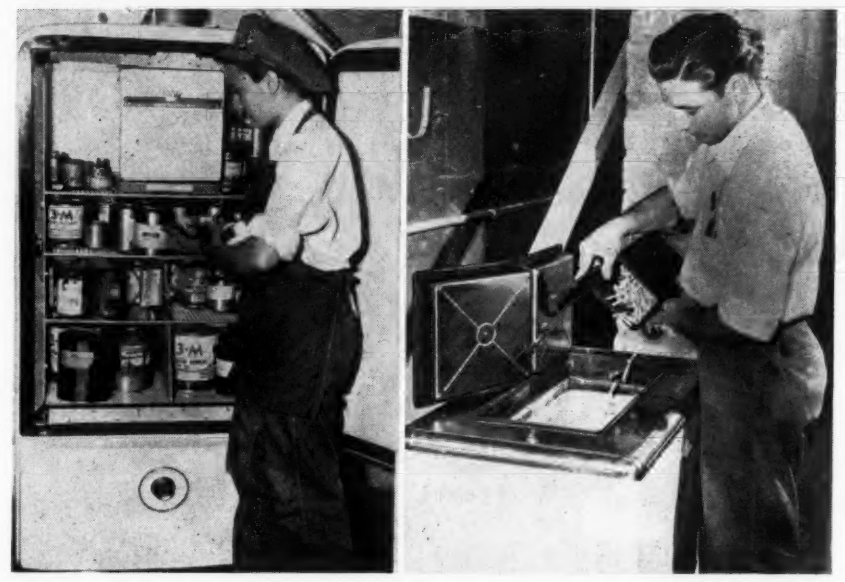
The company also agrees, the FTC reports, "to cease and desist from . . . representing that purchasers of the units are afforded unlimited protection, or any protection in excess of that actually provided, against display case worries such as fogging or sweating of glass fronts or other factors deterrent to clear vision; and from use of the words 'Insurance Policy,' or other words of like meaning, as a designation for or descriptive of an undertaking under the terms of which they agree to replace glass or other parts of such refrigerators for a consideration."

Army Stores Aircraft Rivets In Ice Cream Coolers

McCLELLAN FIELD, Calif.—Coolers and electric refrigerators which formerly housed ice cream, pop, and foodstuffs are now utilized for the cold storage of aircraft rivets and plastic cement and other rubber and metal glues at the Sacramento Air Depot at McClellan Field as well as at other aircraft repair stations.

Rivets used in present-day planes are put through an annealing process to make them less brittle. After being heated to a high degree and then cooled, the rivets must be kept at below-freezing temperatures until needed. Ice cream coolers provide both the low temperatures and space needed for storage of these rivets.

Repair of self-sealing bullet-proof gas tanks and de-icing devices requires use of types of cement which must be stored at temperatures below 70° to prevent the thinner in the cement from evaporating. Electric refrigerators with their adjustable controlled temperatures have proved ideal for this use.



Betty Payton (left), mechanic apprentice at Sacramento Air Depot, places plastic cement in a household refrigerator, while Raymond Orr dumps rivets into an ice cream cooler's below-freezing storage space.

IAEL Sees Prefabricated Homes as Major Postwar Appliance Market

Independent Dealer Will Supply New Homes, Electrical Leagues Believe

(Concluded from Page 1, Column 2)

to begin early next year under the slogan of "Better Care, Less Repair," stated Ernie Greenwood, of New York's Edison Electric Institute. The major problem is the cutting down on repair demands without sacrificing full use of all available appliances.

Calendars will be issued featuring the essential appliances and a list of do's and don'ts in using them. Advertising will be carried by direct mail, newspapers, and public posters. National manufacturers are backing the program in 30 national magazines and on sponsored radio programs.

The trading post idea as applied to electrical appliances and equipment was presented by Denny Shaler, of Pittsburgh's Electrical League of Western Pennsylvania.

Launched under a slogan of "Swap your old appliances for war stamps," the campaign was sold to dealers, repairmen, and utilities through its ability to show a profit for all concerned, including Uncle Sam. Publicity was floated by window streamers, newspapers, and the utility's monthly power bills.

In total figures, Shaler reported, 272 dealers were contacted. Of these, 52 proved ineligible for lack of repair facilities, but all of the rest accepted. Of the 220, 139 really worked into campaign, and 22 produced outstanding results.

The campaign wound up in September with a total of 4,182 appliances, including 1,854 hand irons, 352 vacuum cleaners, 323 radios, 220 washers, 113 refrigerators, 20 electric ironers, and the rest miscellaneous.

The greatest percentage of returns in proportion to specific advertising methods came from those neighborhoods where dealers' representatives did personal canvassing or left handbills. Dealers in downtown areas of course could not do this, and repair outlets were confined to advertising while out on calls.

APPLIANCE REPAIRS INCREASE

Reports on similar campaigns in other major cities were contributed, having in common a noted increase in appliance repairs and a greater effectiveness where war stamps were used as the trade medium.

Chairman for Thursday afternoon: Bill Ritt, secretary-manager of Minneapolis' North Central Electrical Industries. His introductory remarks stressed the necessity for giving dealers all possible aid in translating and following the CMP, OPA, and WLB regulations they are required to observe.

One of the league's greatest functions, he observed, is to work against the high dealer mortality evidenced during the past year. The appliance distributive field after the war will be a competitive, selective one, and the independent dealer is the man to handle appliance selling.

The importance of periodical meetings in industrial administration was brought out by Carl Christine, secretary-manager of St. Louis' Electrical Board of Trade. Frequent regular meetings have a definite part is maintaining efficiency within the league, he stated, and in maintaining good public relations with related businesses outside it. He stressed five points:

1. Awareness of, and reaction to, changing conditions in the community.

2. Timely presentation of problems before they come to a head.

3. Mutual confidence is built upon understanding and cooperation.

4. Securing good speakers promotes ideas, discussion, the formulation of policies, and mutual cooperation in a variety of interests.

5. A group taking part in frequent discussions presents a solid front in competitive action. Each dealer knows what his fellows will do, and can do likewise in confidence of their backing.

The importance to appliance industries of the postwar prefabricated homes boom was covered by Art Shanuel, of New York's National Adequate Wiring Bureau.

Prefabricated homes promise to be the industry's biggest postwar market, he said. Low cost homes, they will be within the reach of hundreds of thousands more people than ever before.

Assembly plants have been planned in 50 carefully chosen areas that are already being publicized in newspapers and local promotion campaigns. Financing will be made possible through banks, loan companies, and probably through FHA. These homes will need appliances, and are being wired for them.

The high cost of labor and materials in the immediate postwar field must be offset by increased efficiency in the appliances produced, believed Sheridan Taylor, of the Electric Assn. of Philadelphia. Present appliance and refrigeration training courses are working toward that in his city.

ON 24-HOUR SCHEDULE

John Morrison corroborated this point with information that Philadelphia vocational schools are teaching these courses on 24-hour schedule, and that the courses promise to go into regular postwar public school curricula.

Friday, Sept. 17: Chairman, Carl Christine. The postwar residential market as a whole was discussed pro and con by Arthur Hirose, director of market research for McCall's Magazine, and Les Moffatt, editor of Electrical Merchandising.

Hirose opened with a few specific figures on the situation, contrasting 1940, our last peacetime-integrated year, with 1943. The production rate of manufactured goods had doubled between those two markers, he pointed out. National income had also, but savings had increased only 10%.

A great fountain of money undoubtedly would be released by way of cashed war bonds, for which present figures could not be even guessed at. The cash market nevertheless would be tremendous. He gave figures also on probable reconversion tables for resumed manufacturing of major appliances. Refrigerators would not be back in production before six months.

DON'T EXPECT UNEMPLOYMENT

No postwar program will get to first base that is based on long-range unemployment, stated Les Moffatt. Farmers will be largely debt-free, home owners will have disposed of much of their instalment hangovers, and returning servicemen cleaned up much of their unfinished business before leaving.

Debt, or credit, if you prefer the term, represents money, he pointed out. It supports employment and activity in our business economy. Postwar manufacturing and selling faces an era of great credit expansion.

And women will dominate the postwar market, contributed Hirose. Figures show that women spend most of the money going into family budgeting, and women are the ones that will be interested in home appliances.

War cuts down the rich and boosts the income of the poor, expanding the middle classes as a purchasing body. There will be fewer servants, because domestics will remember the well-lighted, well-ventilated factories, and the big pay envelopes they got there. Appliances will be called on to take their places.

PRICES WILL GO DOWN

The price of appliances will go down as competition is winnowed out and mass production of the accepted models begins, said Hirose. Retail outlets surviving will be those doing the job under least operating costs.

The independent appliance dealer is the most economic operator, much more so than the department store or incidental retailer. Manufacturers know this, retaining their factory outlets and department store dealers only because of the volume.

The appliance dealer therefore is the logical man to handle the immediate postwar appliance production, which necessarily will be limited until mass production once more gets under way. The models he will sell will be 1942 models, struck immediately from 1942 dies to hold the market open until new models can be released and tested.

In the prefabricated home market, they agreed, experience in defense housing has telescoped manufacturing methods and assembly procedures. Distribution inexperience will be a handicap, but temporarily only.

Prices will fall generally under $5,000, and with the advance of the commercial refrigeration lockers and home deep-freeze units, frozen foods gradually will increase via an originally limited class market.

Estimated sales rate for new homes was worked out at a minimum of 900,000 a year during the first decade after the war. Prefabricated homes, the panel believed, will be outfitted through appliance dealers.

New opportunities in the postwar commercial market were discussed by Ron King, of Trenton's Central Jersey Electrical League.

Postwar production will stem from two sources, he pointed out: (1) From industries that can begin to taper off into civilian production before the shooting war has stopped, and (2) from those industries committed up to the hilt of armistice.

ARE WORKING TOGETHER

Government and business are working together to get as many industries as possible into the first group, toward postwar balance. The big aircraft and shipping companies are representative of those in the second group. Major appliances fall generally within the first.

Figures on a 260-store are conditioning survey in Pittsburgh were given by Frank Colb, of that city's light and power company. Of those having air conditioning, 82% found the operation entirely satisfactory, 96% would recommend it to others, 69% could see a perceptible business increase, and 38% believed that the installation had paid for itself.

Of the stores having no air conditioning, 50% had not invested in any because of the cost, but 35% planned to buy after the war. On the whole, 41% could use air conditioning to advantage more than 100 days a year. Of manufacturers recognized by the stores interviewed, manufacturer A was recognized by 34%, B by 29%, C by 25%, and D by 22%. No manufacturers could be identified by 45% of the stores.

NEW OFFICERS ELECTED

Officers for the coming year were elected at the close of Friday's sessions as follows: Bill Ritt, president; Gene Zachman, vice president; Ralph Neumuller, of New York's Electric and Gas Assn., treasurer; and O. C. Small, of NEMA, was re-elected secretary.

The board of directors will include George Austen, manager of the Toronto (Canada) Electric Service League; Jack Bartlett; J. Clark Chamberlain; Carl Christine; Vic Hartley, of Los Angeles' Pacific Coast Electrical Assn.; Ralph Neumuller; Bill Ritt; H. P. Wilson, of Rock Island's Tri Cities Electric Institute; and Gene Zachman. John Morrison, past president, automatically is retained as an advisory member.

WPB Tells How Missing Material Is Replaced

WASHINGTON, D. C.—In cases where controlled material is lost or stolen in transit, it must be replaced by the person with whom the order for it was placed, without requiring a new allotment, the WPB announced.

This ruling, contained in Direction No. 28 to CMP Regulation No. 1, indicates that the replacement order should be treated by a producer in the same way a replacement order for defective controlled material is treated under the terms of Direction No. 16 to CMP Regulation No. 1. Generally, this means that the replacement order takes preference over all other orders.

Warehouses must give a replacement order, according to Direction No. 28, preference over all other orders, in the absence of specific instructions to the contrary. However, if a warehouse is unable to fill a replacement order immediately, the cutomer may, if he desires, and without further charge to his allotment account, cancel the order with the warehouse and place a new authorized controlled material order with another warehouse which can make delivery immediately.

The direction specifically points out that it does not affect the rights or liabilities of any person with respect to lost or stolen material.

The Priorities Quiz

(Air Conditioning & Refrigeration News, with the aid of a man who is actually engaged in handling much priorities work, will attempt to answer questions from readers about priorities problems. The editors will not guarantee to answer all questions, nor can they guarantee that the answers will be legally perfect, but an effort will be made to provide a guide to correct procedure wherever possible.)

How Do CMP Regulations 3 & 5 Operate Now?

Q. There have been any number of recent changes in Priorities Regulation No. 3 and in connection with those changes, we have noticed repeated references to CMP Regulation No. 5. Frankly, we are confused. Can you straighten us out as to the relationship between Priorities Regulation No. 3 and CMP Regulation No. 5 and outline for us the essential changes in each regulation?

A. Both Priorities Regulation No. 3 and CMP Regulation No. 5 contained originally lists of items which could not be purchased with MRO or repair order ratings. In an effort to eliminate some of the confusion caused by having two such lists in existence, the restricted list in CMP Regulation No. 5 was revoked and the restricted list in Priorities Regulation No. 3 was revised. The lists in Priorities Regulation No. 3 now tell you what items cannot be purchased with MRO ratings as well as what items cannot be purchased with any of the so-called "blanket ratings" such as are assigned by preference rating orders of the "P" series (P-126, etc.)

Although these items in the lists of Priorities Regulation No. 3 cannot be purchased on blanket ratings, they may be purchased on ratings specifically assigned for the purchase of those items. Applications for such ratings may be made on Form PD-1A (now WPB-541) or Form PD-3A (now WPB-542).

The new revision to Priorities Regulation No. 3 also points out that blanket preference ratings assigned for maintenance and repair purposes may be used by a person for the repair of machinery and other facilities even if the repair job does not require delivery of parts and materials. Before this revision, such ratings were usable only for the delivery of parts. This is an important change. CMP Regulation No. 5 no longer contains any restricted list. Priorities Regulation No. 3 is now controlling as to these restricted items and in effect limits the use of ratings available to you under the terms of CMP Regulation No. 5.

Proposed CAP Plan Won't Supplant CMP

Q. Have you heard any details on the new CAP plan? Will this supersede the present CMP plan?

A. CAP or the "Controlled Allotment Plan" or "Coordinated Authorization Procedure" (they haven't decided which name to use) is not intended to supplant the Controlled Materials Plan. It is designed to work along with CMP. CAP is to control the flow of critical materials other than controlled materials. CMP so far, at least, controls only copper, steel, and aluminum. CAP is supposed to supersede all present procedures for applying for materials which are under special allocation.

The plan is not officially in effect. A tentative schedule, though not official, called for the distribution of application forms to manufacturers on Sept. 20. These applications will be due in Washington Oct. 20, and on Nov. 1 the authorizations will be issued by the WPB to the manufacturer.

Just exactly which critical items CAP will cover has not been announced. The general statement, however, says that all critical non-controlled materials will be included. The WPB believes that this new CAP plan will eliminate the burden of making repeated applications and will, at the same time, authorize the manufacturer to purchase such materials in quantities which are integrated with his production requirements.

Under CAP, you will file one application quarterly basing your requirements on your authorized production schedule. This will eliminate many of the present monthly applications.

You may expect some detailed announcement later. At present, forms are not available for distribution as final approval has not been granted. Present plans call for a distribution of approved forms by mail. All manufacturers now filing under CMP will receive the new CAP applications directly from the War Production Board.

First Quarter CMP Applications Due Oct. 5

Q. Have you heard when the first quarter applications under CMP are to be filed?

A. First quarter, 1944, CMP applications are due Oct. 5, 1943 and the War Production Board has announced that a new form somewhat streamlined will soon be ready for distribution. First quarter applications must be made on the new form and you must file an application for the first quarter even though you have been allotted sufficient quantities of controlled materials to carry you though the first quarter. The new and simplified form is now being distributed by mail and the accompanying letter states that the new form may also be used for making interim applications for additional material during the fourth quarter, 1943.

CMP Rule 5 Permits 'Capitalized' Repairs

Q. CMP Regulation No. 5 authorizes the use of ratings for the purchase of capital equipment under the value of $500. Does it consider repairs which are capitalized as distinguished from the actual purchase of new capital equipment? If so, how are these handled?

A. CMP Regulation No. 5 does consider the question of capitalized repairs. You may use the CMP Regulation No. 5 ratings on repairs which are capitalized under the value of $500. If these capitalized repairs exceed $500 in value, you should make application for a rating on Form PD-1A (now WPB-541) and the value of these capitalized repairs should not be adjusted or deducted from the total value of MRO ratings available to you.

Kelvinator To Assemble Helicopter In Detroit

DETROIT—Final assembly of the Nash-Kelvinator helicopter will be made here, according to George W. Mason, president of Nash-Kelvinator. "In time we hope to have three production line helicopter assembly systems in operation," Mr. Mason said, "a parts assembly in Milwaukee, another in Grand Rapids, Mich., and a final assembly line in Detroit."

Army Refrigeration Problems

By P. B. Reed

Electric Refrigeration and Air Conditioning Division, Servel, Inc.

Oil-Refrigerant Mixture Problems (Cont.)

Most of the oil passing through the suction line returns to the crankcase, but not all. The vapor itself carries some oil as a fine mist and this carries over into the cylinders, instead of going into the crankcase with the liquid oil. Then, too, some oil from the crankcase is splashed up on the cylinder walls and passes the pistons and rings into the cylinders. As a result there is always some oil being pumped by the compressor out into the "hot gas" discharge line to the condenser.

Some oil movement through the compressor is desirable, for the pistons, rings, cylinders, and valves must be lubricated. The oil in the discharge gas is in the form of a mist with the high pressure refrigerant vapor.

In passing through the condenser, either air or water cooled, heat is removed from the vapor and it turns into a liquid, taking with it the oil, so that the liquid refrigerant that passes to the receiver is actually not a pure refrigerant but a mixture of pure liquid refrigerant and oil. The percentage of oil in the mixture depends upon the amount of oil being passed by the compressor which in turn is affected by the height of the oil level in the compressor and the condition and design of the pistons, rings, valves, etc.

High-side oil separators are sometimes used and if they are properly designed and installed they may remove over 95% of the oil from the hot gas and return this oil directly to the compressor crankcase instead of allowing it to circulate throughout the entire system. Among the types of installations in which the high-side oil separator is sometimes, but by no means always, desirable are extremely low-temperature applications (—50° F. to —125° F.), ice cream freezers and "pot type," evaporators offering difficulties in obtaining proper oil return to the compressor.

Editor's Note: This is the second of two articles by Mr. Reed on oil return problems. The first section was published in the Aug. 30 issue of the NEWS, but was not continued in the Sept. 13 issue to permit publication of a special article devoted to substitution of methyl chloride for "Freon."

The concentration of oil in the receiver and in the liquid line may be quite high—10% oil is common, 20% not unusual. This means that if the reserve supply of "Freon-12" in the receiver is 10 pounds and there is another 10 pounds in the liquid line that of this liquid almost ½ gallon may be oil. In other parts of the system outside of the compressor there may easily be as much as another quart of oil, making perhaps three quarts of oil in circulation.

This oil in circulation came from the compressor. So, as far as the compressor is concerned, it has lost 3 quarts of oil. If the compressor had but one gallon to start with as the original oil charge the loss of three quarts would result in such a low oil level that there would be insufficient lubrication and the compressor bearings, seal, shaft, and other parts would be damaged.

In some installations the oil in circulation throughout the system is greater than the oil charge of the compressor, so that the compressor could be robbed of all of its oil to saturate the refrigerant in the system.

The oil in the compressor is the only place from which the "Freon-12" can originally get the oil that it picks up, so the only remedy is to add oil to the compressor to make up for that robbed from the compressor by the refrigerant. The refrigerant does not continually increase the amount of oil it holds in mixture.

After a time a state of equilibrium comes, in which the "Freon-12" in the system becomes "saturated" with oil and the amount of oil robbed from the compressor is balanced by the amount of oil being returned to the compressor. If oil is added to the compressor to make up for the oil lost by the compressor to the refrigerant in the system it will not be necessary to continue to add oil to the compressor beyond this amount.

It is practically impossible to calculate the amount of oil that will be carried in suspension by the refrigerant in any given system. There are too many variables that affect the amount of oil in the system; amount of refrigerant in the receiver, length and size of the liquid and suction lines, size and design of the evaporator, temperature of the evaporator, velocity of the refrigerant through the evaporator and the balance in capacity between the evaporator and the condensing unit for the desired temperature.

If a manufacturer is furnishing a complete self-contained piece of equipment in quantity, he can experimentally determine how much oil he must add to the compressor over and above the normal original oil level and then add that same amount to each of the units that are made exactly the same.

However, there are many jobs erected in the field or which are separately engineered and designed and which are not exactly like any other job. On such jobs, which constitute the bulk of small tonnage installations, it is necessary that determination of the amount of oil to be added to the compressor must be by the "cut and try" method, that is to add oil to the compressor to keep the oil level up to normal until a balance is reached and the oil level remains constant after which the system becomes stabilized and no further addition of oil is necessary.

In actual practice the oil level in the compressor should be checked within two hours after the installation has been started up or within an hour after the evaporator has been reduced to the desired temperature. Check the compressor oil level and add APPROVED oil as may be necessary to bring the level up to normal.

The next day again check the compressor oil level and add oil, if necessary. It is good practice to check again in about three or four weeks to determine if an oil leak has shown up or if in some manner, the oil return to the compressor has ceased to function.

Some attempts have been made to estimate ahead of time how much oil will have to be added such as one pint of oil for every 10 pounds of "Freon-12" in the system or some similar basis of predetermination, but at best they can only be approximations. The only safe and accurate way is to add oil according to the need to keep the level in the crankcase up to normal, so that the compressor will be adequately lubricated.

Westinghouse Publishes Data Book on Motors

EAST PITTSBURGH, Pa. — New simplified motors and control data in bound and loose-leaf form for quicker selection, easier ordering and quicker delivery, is announced by Westinghouse Electric & Mfg. Co.

Buyers of motors and controls may secure copies from the company's district offices only — no mailings from the Westinghouse headquarters at East Pittsburgh.

Bound books contain prices, dimensions, application data and descriptions. The 180-page "Motor Buying Data" covers popular types and ratings of motors (up to 100 hp.), gearmotors, and M-G sets. "Control Buying Data" (276 pages) lists a wide variety of controls and accessories for d-c, single-phase, squirrel cage and wound rotor motors.

For the use of large-scale purchasers, the motor and control loose-leaf book contains complete product listings, plus information on special features required for specific industries. Pricing data is always kept up to date by the issuance of new price supplements.

Arranged to fit buyers' needs and eliminate selection errors, the new books include only pertinent buying data. Special features are the new index system for quick product selection, and the directory of standard equipment designed to eliminate need for specially built motors and control.

Individual Apartment Heating Control Sought In Contest For Architects

MINNEAPOLIS—After uncovering the fact that 84% of apartment residents would like the idea of personally controlling the heat in their living quarters, Minneapolis-Honeywell Regulator Co. recently announced a $10,000 competition for the best heating designs applicable to apartment building construction.

Following results of a survey conducted by an independent research corporation for Minneapolis-Honeywell which revealed the majority of 1,000 apartment dwellers in New York City, Chicago, Brookline, Mass., and St. Louis in favor of individual heat control, a hypothetical six-story building was chosen upon which to hinge the contest. Prizes will be awarded for designs of a system of steam heating and its control, and a system of hot water heating and its control.

"Personalized apartment heating represents the latest advance in apartment design," says John E. Haines, manager of the company's air conditioning controls division, "and after the war will be as common as the electric refrigerator which has become an integral part of all apartment houses. Postwar apartment dwellers will not have to open windows in zero weather to cool off, nor will they have to call the janitor for more heat. The thermostat in each apartment or room will maintain temperatures at the point selected by occupants."

In referring to tests on a number of large buildings, Mr. Haines said they showed that automatic control systems of this type provided an average fuel saving of 18% and he cited the equally important indication that at least 48% of the people interviewed would be willing to pay an average increase of five dollars a month more in rent for individual apartment heat control.

Instructions and layouts for the contest, which will close Nov. 15, 1943, will be provided each contest entrant, together with information on personalized heating. Any person except employes of the company, according to the sponsors, may enter the competition by writing the Minneapolis-Honeywell main office. The winner of the first prize in each group will receive $2,000, the second prize $1,000, and the third prize $500. In addition there will be 20 honorable mention prizes of $150.

All entries will be judged by a jury consisting of a nationally known consulting architect, and a representative of Minneapolis-Honeywell, Haines said.

Air Conditioning Permits Processing of Human Serum Albumin For Transfusions

KALAMAZOO, Mich.—The Upjohn Co., manufacturer of pharmaceuticals, has found air conditioning and refrigeration equipment vital to the processing of human serum albumin.

Human serum albumin differs from dried blood plasma in that it is ready for immediate injection into the patient, whereas dried plasma must be put into solution with distilled water before the transfusion can be made. It differs also in that plasma contains all of the elements of human blood except the red and white cells, while in the case of serum albumin all of the constituents of the blood except the albumin have been removed. The shipping bulk is about one-tenth of that required for an equivalent of plasma.

The human blood is received from the Red Cross Bleeding Centers in ice-cooled shipping containers and is at once stored in a room kept at 34° F. by means of a Carrier refrigerating machine and cold diffuser. The red and white cells are separated by means of centrifugals, and the clear plasma is siphoned off under aseptic conditions.

Further operations on the plasma are carried out in a room held at 23° F., likewise by means of air conditioning. The process consists in precipitating and separating one by one the various constituents of the blood. This is accomplished by controlling three factors, the temperature of the solutions, its hydrogen-ion concentration, and the concentration of the alcohol which is added. In this way the fibrinogen and the various globulin fractions are precipitated and separated and finally the pure albumin is precipitated.

The alcohol is removed by shell-freezing the albumin solution and drying under a high vacuum. The dried albumin is dissolved in sterile water to give a 25% solution. Carrier-installed equipment serves during this entire process and is used to cool not only the rooms, but the alcohol solutions, the precipitation mixtures, and the centrifuges.

The finished package of human serum albumin consists of a sterile bottle containing 100 cc. of the solution, fitted with sterilized tubing, needle, and air filter. The entire package is complete and ready for immediate use.

Swaney Selected For OPA Valve Group

PITTSBURGH, Pa.—W. O. Swaney, general manager of Kerotest Mfg. Co. here, is one of 17 executives of companies engaged in the manufacture and sales of manually and motor operated valves and pipe fittings appointed by the Office of Price Administration to serve on the Valve and Pipe Fittings Industry Advisory Committee.

The committee will advise and consult with OPA concerning the industry's pricing problems.

Quick Frozen Shark Meat Finds Big Market

WASHINGTON, D. C. — Shark meat which, before the war and subsequent meat shortages, was discarded is now being done up in five-pound packages, quick frozen, and distributed to a demanding market, it is learned from Coordinator of Fisheries, Harold L. Ickes.

A shark freezing plant in Miami, the main source of frozen shark meat, is supplied by a fishery in Fort Pierce, according to the report. Sharks in abundance are taken from areas located off Fort Pierce, dressed, their valuable livers removed and shipped in refrigerated trucks to Miami where the steaks and fillets are cut, wrapped, and packaged. Part of this bulk is then quick frozen, the remainder being placed on the market fresh.

Formerly the Fort Pierce fishery took the sharks for their skins and liver oil alone, discarding from three to five million pounds of flesh annually for lack of a market, it is stated.

In an effort to utilize all edible fish, representatives of the Coordinator's office brought together representaives of the two companies, and as a result of this meeting the freezing plant in Miami is now buying all the sharks it can get from Fort Pierce.

After samples of quick-frozen shark steaks and fillets issued to restauranteurs in Washington, D. C. and other cities were tested, an enthusiastic market developed extending even into the Midwest. Chicago, alone, used 100,000 pounds of shark meat this past summer.

Further Information and Text Of Revised P-126 Repair Order

WASHINGTON, D. C.—Further information on the amended Preference Rating Order P-126 (material for emergency servicing of industrial and commercial refrigerating and air conditioning systems), originally published in the Sept. 20 issue of AIR CONDITIONING & REFRIGERATION NEWS, is contained in the official War Production Board release, which, together with the complete text of the order follows:

The amended order defines a service agency as any individual or firm which engages in repairing systems belonging to others. It assigns preference ratings and CMP allotment symbol MRO to purchase orders for maintenance and repair parts and materials placed by any service agency, according to uses of the systems for which they are needed. Systems and applicable preference ratings follow:

Class I: AA-1-MRO, for systems used in industrial food manufacturing, processing, packaging, preservation, storage or transportation, or for purposes listed in Schedule I of CMP Regulations 5 and 5A.

Class II: AA-2-MRO, for systems used in restaurants, hotels or retail stores, exclusive or air conditioning systems; in milk cooling on farms; or purposes listed in Schedule II of CMP Regulation 5 and 5A. Also in Class II are parts and materials needed to build up the service agency's inventory to the largest permitted amount.

Class III: AA-5-MRO, for systems (except air conditioning) used for purposes not listed in Schedules I and II of CMP Regulations 5 and 5A or in Class II.

Controlled materials for Class III uses may be bought only with special WPB permission; application is made at local WPB offices on Form WPB-541 (formerly PD-1A). Controlled materials for repair and maintenance of Class I and II systems may be bought with the preference ratings designated, with the exception of aluminum. This must be obtained in accordance with the provisions of CMP Regulations 5 and 5A.

To permit newly established service agencies to maintain sufficient inventories, former inventory limits based on 1941 inventories have been changed. A service agency may build up an inventory, estimated in dollar value, needed to continue emergency repair service for a 60-day period according to its current method and rate of operation.

Part 1226—GENERAL INDUSTRIAL EQUIPMENT

[Preference Rating Order P-126 as Amended Sept. 15, 1943]

Material for Emergency Servicing of Industrial and Commercial Refrigerating and Air Conditioning Systems

§ 1226.22 **Preference Rating Order P-126**—(a) **General purpose and effect.** This order gives preference ratings to help service agencies (as defined herein) get parts and materials for the emergency maintenance and repair of industrial and commercial refrigerating and air conditioning systems (as defined herein). No such service agency shall obtain any parts and materials for the emergency maintenance and repair of systems under CMP Regulations 5 or 5A except as specified in this order. However, delivery may be made and accepted on any delivery order placed pursuant to CMP Regulation 5 or 5A before Oct. 15, 1943. Nothing in this order shall prevent any person other than a service agency from using CMP Regulation 5 or 5A.

(b) **Definitions.** As used in this order:

(1) "System" means any refrigerating or air conditioning system made up of a combination of machinery or equipment used with a "refrigerant" to cool, or remove water vapor from, gaseous, liquid or solid matter. The term does not include any nonmechanical ice chest or ice box for household use. Also, the term does not include a mechanical refrigerator for household use which has a net capacity of 16 cubic feet or less (National Electrical Manufacturers Association rating) unless all three of the following apply: (i) it is designed for the storage of frozen foods or for the quick freezing of food, and (ii) the low temperature compartment is designed for normal operation at less than 15° above zero, Fahrenheit, and (iii) the low temperature compartment contains more than three-quarters of the total refrigerating space in the refrigerator.

(2) "Refrigerant" means ice, ammonia, carbon dioxide, methyl chloride, sulphur dioxide, or a chlorinated hydrocarbon refrigerant as defined in Order M-28.

(3) "Parts and materials" means all parts including cold storage doors, devices, commodities, equipment, accessories, necessary service tools) and materials suitable for use in or with a system, except chlorinated hydrocarbon refrigerants as defined in Order M-28.

(4) "Emergency maintenance" means the very least amount of upkeep needed to continue a system, already installed, in sound working condition. It does not include the improvement of any system or part of a system by replacing parts and materials which are still usable, with parts and materials of larger capacity or a better kind, quality, or design.

(5) "Emergency repair" means fixing a system, already installed, after it has broken down or when it is about to break down. It does not include the improvement of any system or part of a system by replacing parts and materials which are still usable with parts and materials of larger capacity or of a better kind, quality, or design.

(6) "Service agency" means any individual, partnership, association, business trust, corporation, or other organized group of persons, whether incorporated or not, which engages in repairing systems belonging to others.

(7) "Largest inventory allowed" means an inventory not larger than the inventory of the parts and materials needed to continue emergency repair and emergency maintenance service for a 60-day period according to the current method and rate of operation. The size of the inventory shall be measured by its dollar value. In taking inventory the service agency shall include in its largest inventory allowed its entire stock of new parts held by it and any other parts (whether usable or not) received by exchange and which it has failed to recondition or dispose of in accordance with paragraph (i) (Required disposal of replaced parts) of this order.

(c) **Assignment of preference ratings.** The following preference ratings and allotment symbols are assigned to orders placed by any service agency for delivery of parts and materials to it:

Class I: (1) AA-1—MRO, for parts and materials needed by the service agency in the emergency maintenance or emergency repair of systems used in industrial food manufacturing, processing, packaging, preservation, storage, or transportation; or in the conduct of other activities, or in the manufacture of products, or in the rendering of services, listed in Schedule I of CMP Regulation 5 and 5A. (But this rating is not assigned to orders for parts and materials to be used in systems of restaurants, hotels, or retail stores; or in systems of soft drink or malt beverage processors or dispensers; or in milk cooling systems on farms.)

Class II: (2) AA-2—MRO, for parts and materials (i) needed by the service agency in the emergency maintenance or emergency repair of systems used in restaurants, hotels, or retail stores (except air conditioning systems used in restaurants, hotels, or retail stores); or of milk cooling systems on farms; or of systems used in the manufacture of products, or in the conduit of activities, or in the rendering of services, listed in Schedule II of CMP Regulation 5 and 5A; or (ii) needed by the service agency in building up its inventory to the largest inventory allowed.

Class III: (3) AA-5—MRO, for parts and materials needed by the service agency in the emergency maintenance or emergency repair of systems (except air conditioning systems) used in the manufacture of products, or in the conduit of activities, or in the rendering of services, which are not listed in schedule I or II of CMP Regulations 5 or 5A or in Class II (above).

(d) **Restrictions on application of preference ratings.** (1) Except to build up its inventory to the largest inventory allowed as provided in paragraph (c) (2) (Class II), no service agency shall apply a rating to an order for parts and materials unless it has actually undertaken a job for which those parts and materials are needed. When a service agency, however, has the right to apply a Class I or II rating to an order for parts and materials, then it may take them from its inventory and apply the rating to get the same kind, quality, and quantity of parts and materials to replace them.

(2) No service agency shall apply any ratings assigned by this order:

(i) To get parts and materials which will increase its inventory above the largest inventory allowed, or

(ii) To get parts and materials to be used in a new system, or to expand an existing system, or

(iii) To get parts to improve any system or part of a system by replacing parts and materials which are still usable with parts and materials of a larger capacity, or of a better kind, quality, or design, or

(iv) To get parts and materials to recondition any system which is not already installed.

(e) **Restriction on use of inventory.** No service agency shall take parts and materials from its inventory for use in systems in Class III. The purpose of this restriction is to reserve parts and materials in inventory for the emergency repair and maintenance of the more essential systems in Classes I and II. When a service agency has actually undertaken a job for the emergency maintenance or emergency repair of a system in Class III and needs parts and materials for that system, it must place an order for the parts and materials with its supplier. It may not apply a rating higher than the Class III rating to the order.

(f) **Controlled materials.** A service agency may use the CMP allotment symbol MRO to place an authorized controlled material order for controlled materials (steel sheets, copper wire, copper tubing, etc.,) for the same purposes for which it can use the Class I or II rating. It cannot, however, use the CMP allotment symbol MRO to get aluminum. Also, the service agency cannot buy controlled materials for any use to which a Class III rating is given unless it gets special permission. The next paragraph tells how to get this special permission.

(g) **Special permission.** Any service agency needing controlled materials, except aluminum, which it cannot get under this order, may apply at the nearest office of the War Production Board on Form WPB-541 (formerly Form PD-1A) for the right to use the MRO symbol to get controlled materials, except aluminum. Also, any service agency needing parts and materials which cannot get them with the ratings assigned in this order, may apply to the nearest office of the War Production Board for a higher rating by using the same form. Any service agency needing aluminum may obtain it in the manner provided in CMP Regulation 5, paragraph (g-1); or CMP Regulation 5A, paragraph (h) (2).

(h) **How a service agency places purchase orders for parts and materials—(1) Application of ratings.** The service agency using the ratings given by this order shall endorse on the original and all copies of each purchase order, or contract, for parts and materials placed by it which are to be rated under this order, a certification in substantially the following form (with the blank spaces filled in) signed in handwriting, or as provided in Priorities Regulation 7, by each agency or its agent or official duly authorized for this purpose:

Preference Rating AA.....MRO

As an authorized official of the purchaser, I certify, subject to criminal penalties for misrepresentation, that the use of any preference rating or allotment number or symbol which is placed on this order is authorized and that the items ordered will be received and used or disposed of in compliance with all applicable regulations and orders of the War Production Board, including Order P-126.

.....
(Name)

By.....
(Authorized Official)

(2) **Authorized controlled material orders.** A service agency ordering controlled materials for Class I or Class II purpose (or for any other purpose for which special permission has been given under paragraph (g) shall endorse the certification in the previous paragraph on the original and all copies of each purchase order, substituting the phrase "CMP Allotment Symbol MRO" for the phrase "Preference Rating AA ..... MRO." A purchase order bearing such an endorsement shall constitute an Authorized Controlled Material order for the purpose of all CMP Regulations.

(i) **Required disposal of replaced parts.**

(1) No service agency shall deliver any new part to a person who owns or uses the system in which it is to be installed unless the delivery is made upon condition that any replaced used part made of metal will be disposed of in either of two ways: through regular scrap channels within thirty (30) days after the installation of the new part, or by delivery to the service agency.

The service agency shall take all the used parts delivered to it during any calendar quarter and shall do one of three things. The service agency shall repair and place the used part in its inventory, or return the used part to its supplier of new parts, or dispose of the used part through regular scrap channels within thirty (30) days after the end of the calendar quarter. No block tin pipe, however, shall be replaced in a system unless an equal quantity of block tin pipe is returned to the fabricator.

(2) These requirements for the disposal of replaced parts shall not apply:

(i) Where parts are delivered for installation in any system located outside of the United States at the time of such delivery, or

(ii) Where the system is being used directly by the Army, Navy, Maritime Commission, or War Shipping Administration, or

(iii) Where the system is owned by any Federal, State or local Government agency, bureau, department or political subdivision which is prohibited by law from disposed of replaced parts in this way.

(j) **Construction.** When emergency maintenance or emergency repair involves construction, authorization to construct must be obtained to the extent required by Conservation Order L-41 or by any other applicable order or regulation of the War Production Board.

(k) **Miscellaneous provisions—(1) Applicability of regulations.** This order and all transactions affected thereby are subject to all applicable provisions of the regulations of the War Production Board as amended from time to time.

(2) **Records.** Each service agency shall keep and preserve for not less than two years copies endorsed by it of all purchase orders or contracts placed by it to which it applies any rating or symbol assigned under this order, and also a separate record of each service job in the performance of which it uses parts or materials rated under this order, including the names and addresses of all its customers with a list of parts and materials used on each job.

All service agencies shall keep and preserve for not less than two years accurate and complete records of inventories of parts and materials for systems.

All records required to be kept by this order and the applicable regulations shall upon request be submitted to audit and inspection by duly authorized representatives of the War Production Board.

(3) **Reports.** All service agencies shall execute and file with the War Production Board such reports and questionnaires as said Board shall from time to time request, subject to the approval of the Bureau of the Budget in accordance with the Federal Reports Act of 1942.

(4) **Appeals.** Any appeal from the provisions of this order shall be made by filing a letter in triplicate, referring to the particular provision appealed from and stating fully the grounds of the appeal.

(5) **Communications.** All reports to be filed, appeals and other communications concerning this order shall be addressed to: War Production Board. General Industrial Equipment Division. Washington, D. C., Reference: P-126.

(6) **Violations.** Any person who wilfully violates any provision of this order, or who, in connection with this order, wilfully conceals a material fact or furnishes false information to any department or agency of the United States is guilty of a crime, and upon conviction may be punished by fine or imprisonment. In addition, any such person may be prohibited from making or obtaining further deliveries or, or from processing or using, materials under priority control, and may be deprived of priorities assistance.

(l) **Revocation and its effects.** All serial numbered counterparts of Preference Rating Order P-126 now outstanding are hereby revoked, but deliveries already rated pursuant to that order shall be completed in accordance with that order. No additional application of ratings to any other deliveries shall be made under that order, or its serial numbered counterparts, after the effective date of this amendment. This order as amended shall not affect in any way any liabilities or penalties accrued or incurred under Preference Rating Order P-126, or its serial numbered counterparts, before the effective date of this amendment.

Issued this 15th day of September, 1943.

War Production Board,
By J. Joseph Whelan,
Recording Secretary.

Department Stores to Push Appliances After War, Planning Group Indicates

NEW YORK CITY — Department stores will push appliances vigorously after the war, it was indicated as the postwar planning committee of the National Retail Dry Goods Association scheduled a joint meeting of retailers and manufacturers to map plans for the development and promotion of products having the greatest consumer appeal which should in turn increase production and maintain employment.

Saul Cohn, head of the City Stores Co., is chairman of committee.

The first conference having this objective was held recently with representatives of the Carpet Institute and served as a pattern for a series of meetings stressing manufacturer-retailer cooperation. The initial meeting placed particular emphasis on better selling at retail as a factor in easing the transition from a war to a peace economy.

Mr. Cohn said that in preparation for the forthcoming conference on appliances he planned to communicate with Alfred C. Sanger, General Electric sales manager at Bridgeport, Conn. At the same time, he indicated he would take up the matter with the National Electric Manufacturers Association to obtain the broad trade representation desired.

Retailers believe that with the termination of hostilities there will be a tremendous pent-up consumer demand for electrical appliances for the home, production of which has been stopped for the duration. They believe filling this demand will be many producers plan to enter the field, in addition to the old-line established producers of the pre-war period. Many new products are anticipated.

Preliminary postwar plans of retailers and buying organizations in the department-store field indicated they plan to compete more aggressively for the consumer's appliance dollar. This will include smaller stores served by resident buyers, several of which are now taking steps to push appliances when the war ends.

With many women now engaged in war work and becoming accustomed to labor-saving machinery, they will be more expert in the selection of devices for their homes, it was suggested. Postwar appliances as a result will not only be highly effective as pieces of equipment but will also reveal a trend toward improved styling.

Crosley Appoints Tower Connecticut Distributor

NEW HAVEN, Conn. — H. M. Tower Corp. located at 209 Water St. here, has been appointed exclusive distributor in the Connecticut territory for Crosley Corp., announces J. H. Rasmussen, Crosley commercial manager.

Since its establishment in 1922, the Tower company has been headed by W. G. ("Bill") Miller as president and general manager. Zaner C. Deuse, secretary and treasurer, has been with the firm for 15 years.

A complete stock of repair and replacement parts for Crosley servicing dealers, and an inventory of refrigerators for immediate delivery on sales authorized by the War Production Board are available, Mr. Miller says.

Early Production of Irons, Toasters Seen

NEW YORK CITY—Production of electric irons, toasters, and dehydrators will be resumed within five months, claim buyers of home appliances for chain drug stores here, who said that an announcement to that effect was expected shortly from the War Production Board.

All major producers of irons will receive a quota of the total goal, tentaively set at 1,700,000 irons, based on pre-war production, it was said, even though some manufacturers may find it difficult to reconvert their production facilities for this purpose.

G-E Publishes 4 More Consumer Booklets

BRIDGEPORT, Conn. — Second series of General Electric Consumers Institute booklets containing helpful hints for the home has just been published, announced Edwina Nolan, manager of the Home Service Section of Consumers Institute, a division of General Electric Co.'s appliance and merchandise department here.

The four booklets are entitled "Know Your Home Wiring," "Frozen Foods, How to Prepare, Freeze, Package, Cook," "Home Canning Made Easy," and "Short Cuts to Fine Laundering."

Nine booklets were published in the first series, which together with the second series, are being distributed to consumers and used as textbook guides for classroom study. one of the immediate postwar jobs for both retailer and manufacturer. Reports have already indicated that

Apex Promotes Scott, Lotz; Adds Davis

CLEVELAND — Appointment of A. C. Scott as director of sales, Ralph W. Lotz as director of manufacturing, and A. H. Davis as chief development engineer for Apex Electrical Mfg. Co. has been announced by E. C. Buchanan, vice president.

Mr. Scott was manager of John Bruner Furniture Co. in Oakland, Calif., for 19 years before joining Apex Rotarex Corp., an Apex subsidiary, as assistant sales manager. He was sales manager of the Apex Central Sales division when his new promotion was announced.

For 25 years Mr. Lotz directed high precision work at Ford Instrument Co., Long Island City, N. Y., before he came to Apex. When he left he was general superintendent.

Mr. Davis was chief research engineer of American Machine & Metals, Inc., East Moline, Ill., before joining Apex. Previously he was engineering vice president of Shaw-Perkins Mfg. Co., Pittsburgh.

Cabinet Firm's Priorities System Lets Housewives Plan & Order Kitchens Now

ST. CHARLES, Ill. — Announcement of a V-day delivery preference plan has been made here by St. Charles Mfg. Co., makers of steel kitchen cabinets and accessories.

The plan will allow housewives who are waiting for the war to end before setting up their modern kitchens to plan the details of layout and desired models now, with their local dealer. Exact cost will be figured on the basis of prewar prices.

Placing the order is bound by a 10% down payment, which gives to the housewife a delivery preference certificate, numbered as to the order in which customers will receive their steel kitchens when the company goes into postwar production.

The company meanwhile recommends purchase of War Bonds earmarked for this specific use, and every order receipt includes a folder to hold bonds, the kitchen plan as set up, and notes on details further arrangement of accessories about the kitchen.

Full payment at any time before the company begins manufacturing operations on the order will entitle the housewife to a 2% discount. The discount can be gained also by making additional payments direct to the company, which will put all such payments into a separate fund invested in government securities.

Reservation orders without down payment will be accepted now, but will be given preference numbers in a separate series, ranking after preference plan orders. No orders in this series however will be begun until a 10% down payment is made, sometime before the beginning of production.

Absence of risk is equally extended in both cases, since any order may be cancelled and full deposit returned up to within 30 days prior to the start of production.

Air Conditioning & REFRIGERATION NEWS

Established 1926 and registered as Electric Refrigeration News

F. M. COCKRELL, *Founder*

Published Every Monday by
BUSINESS NEWS PUBLISHING CO.
5229 Cass Ave., Detroit, Mich.
Telephone Columbia 4242

Subscription Rates
U. S. and Possessions, Canada, and all countries in the Pan-American Postal Union: $4.00 per year; 2 years for $7.00. All other foreign countries: $6.00 per year. Single copy price, 20 cents. Ten or more copies, 15 cents each; 50 or more copies, 10 cents each. Send remittance with order.

GEORGE F. TAUBENECK,
Editor and Publisher

PHIL B. REDEKER, *Managing Editor*
Editorial Assistants: ROSS H. POTTER, C. DALE MERICLE, ELISE WHITE, AND HELEN DAVIS

JAMES B. SMITH, *Advertising Mgr.*
ELIZABETH SMITH, *Assistant Bus. Mgr.*
MARGARET MARR, *Assistant Adv. Mgr.*
HELEN C. HENDERSON, *Credit Manager*
RUTH RICHARDSON, *Subscription Mgr.*

On leave of absence to serve our country
U. S. Army: RICHARD A. NEUMANN, JACK SWEET, GEORGE L. COLLINS, GEORGE M. HANNING AND HUGH T. MAHAR
U. S. Navy: ROBERT P. NIXON, ED HENDERSON, JOHN R. ADAMS.
U. S. Marine Corps: PAUL R. PARK.
U. S. Army Air Forces: JIM MCCALLUM AND GEORGE WATKINS

Member, Audit Bureau of Circulations
Member, Associated Business Papers

VOLUME 40, NO. 4, SERIAL NO. 758
SEPTEMBER 27 1943

New Appliances In 1944 ?

SIGNS are now pointing toward a gradual loosening up of materials for civilian supply. Repair parts are to be favored especially. And it isn't at all unlikely that limited resumption of appliance manufacture may be permitted next year.

All this, of course, depends on the progress of the war. Hitler's defeat will have to be clearly in sight—and pinned down to a timetable—before the Army can be persuaded to relax its grip on all essential materials to a point where it would be feasible to resume manufacture of refrigerators and other appliances.

'VICTORY MODELS' OUT IN FAVOR OF QUOTA PLAN

As we get it, the thinking in high places has veered entirely away from the "Victory model" idea—that of producing a standardized refrigerator in one or two smaller plants. Now the thought is to permit each manufacturer to get back in the business on a quota basis—in much the same way that he was eased out of the business in the early months of 1942.

Also, current thinking seems to run toward the following schedule of resumption: first, electric irons; second, washing machines; third, refrigerators; fourth, water heaters. Long after that, vacuum cleaners and the smaller "frill" appliances.

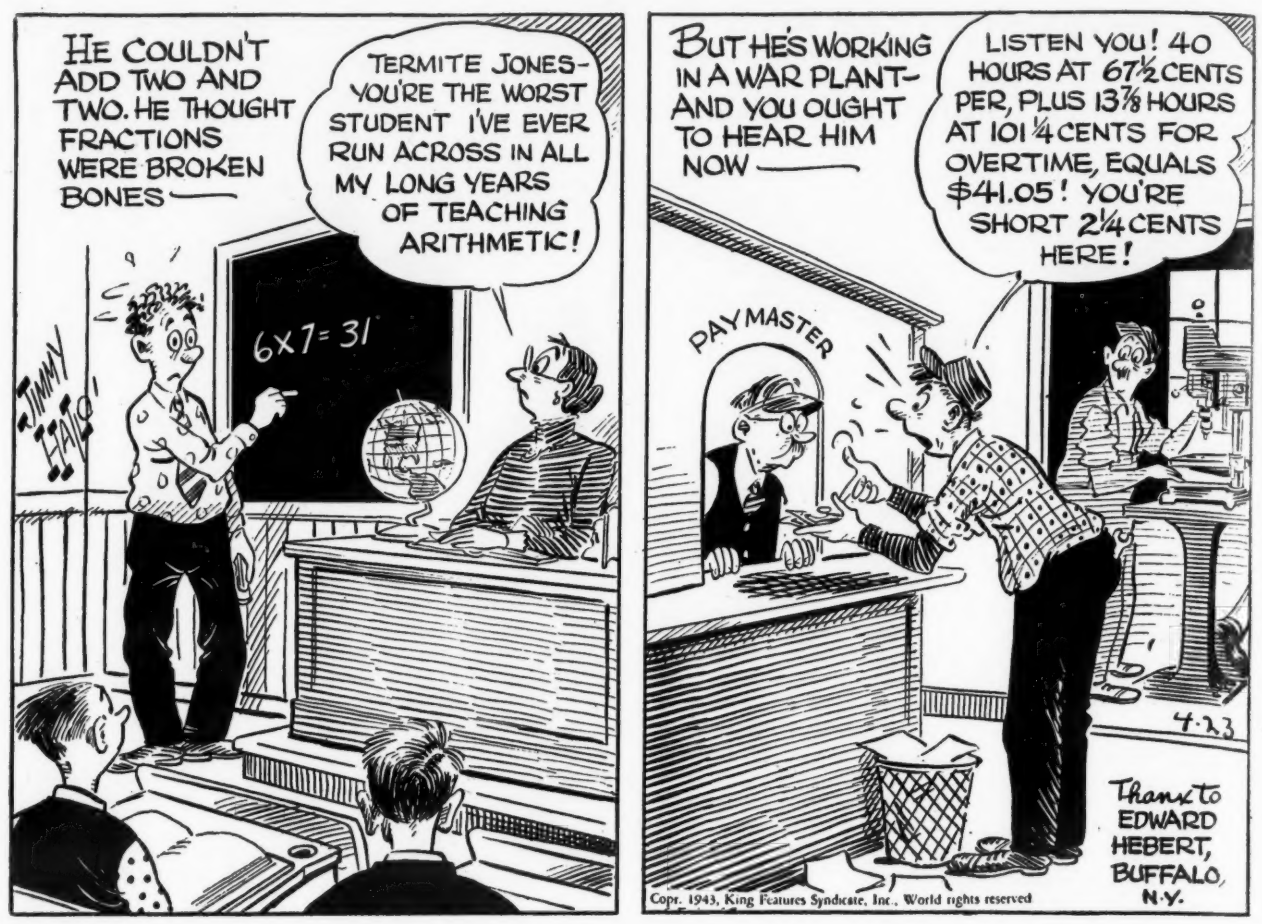
REFRIGERATORS WILL PRECEDE AUTO MANUFACTURE

It is expected that mechanical refrigerators will be back in production before automobiles. And automobile manufacturers, we are told, are betting that there will be an "automobile show" in December, 1944. Even so, nobody is willing to predict that new refrigerators will be coming off the line before midyear, if then.

Everything depends upon the speed with which we tighten the noose around Hitler's neck.

They'll Do It Every Time

By Jimmy Hatlo



Material for War Bond Salesmen

WHOSE money is running this war?

Your Money!

And neither the war nor the hope for peace can go ahead without it.

When you mail in your income tax, you're backing up our fighting men. The Treasury reports that 95 cents of every tax dollar goes into waging the war.

When you buy war bonds, you're doing it again. One hundred cents of every war bond dollar goes into war production.

And when you get someone else to invest in a war bond, you're really fighting the war on the home front. More so than ever, because you're drawing out dollars that would have gone into something else.

THERE'S NO MIDDLE ROAD FOR THE EXTRA DOLLAR

It's that extra money that counts most of all in the fight against inflation. For in this battle area, every extra dollar works directly either for inflation or against it. There is no middle road.

Retail merchants and store clerks and the other home fronters in jobs directly serving the public feel discouragingly far from the front line. The builders of planes, the workers in the shipyards, the turners of gun barrels, all have the satisfaction at least of seeing their day's work take off for fighting fronts all over the world.

THE RETAILER IS FIGHTING ON THE HOME FRONT

Someone else will always point out that somebody has to feed the war worker and his family, and make and clean their clothes, and get him to his job, and keep his home appliances working. Somebody has to finance the same sort of schedule for the soldier, too.

Of course. No one will deny any of these facts. It's just that doing these things sometimes seems so second-hand, so far removed from the actual business of finishing up the war.

In miles, it is a long way. But surely it is a necessary part of waging war, and the men and women trained in these services in a peacetime world are the only ones who can do it thoroughly and well now. That, and selling war bonds, is the biggest and best jobs they can do.

And don't think that extra bonds don't represent a real selling job. People would like to buy more of them, but most people are budgeting for the duration, and don't see how they can swing any more than they're doing already.

$2,000,000 'SLUSH' FUND REMAINS EVERY MONTH

Yet Government bulletins estimate that at the end of each month, America's pay check, after subtraction of all obligations—living expenses, insurance, normal savings, and 10% for war bonds—has 2 million dollars left over, to be carried in pockets and handbags as extra cash.

If that money goes into war bonds, it works against inflation. If it goes into almost any other purchase, it works for inflation. And that means that next time your dollar won't go so far. Next time it will take what you paid this time, plus a little more.

So the job can be done. And for the man with a retail outlet, the financial security of his community and of his store after the war will depend in large part how many bonds were bought there during the war.

You remember how the chain stores used to clear their shelves of an overstocked item. The clerk would give that item a special plug at the close of every order he filled. "How about a pound of coffee?" Figures show that it was successful, too.

'DO YOU WANT YOUR LOOSE CHANGE IN WAR STAMPS?'

The same quiet but persistent campaign can sell a lot of bonds and stamps, too. Instead of a mute red, white, and blue box prominently displayed, a direct suggestion serves to bring the matter front and center. "Do you want your loose change in war stamps?" Not an entreaty. Just a direct question.

It's the biggest job a merchant and his sales staff can do. It IS the biggest, without exception. For every war bond keeps production rolling. And protects the rest of your income by fighting against inflation to keep your dollar at full value.

LETTERS

ONLY 300 NEW SERVICEMEN AVAILABLE YEARLY IN N. Y.

New York YMCA Schools
Five West 63rd Street
New York, New York

Editor:

Of the three schools in the New York metropolitan area that have a training course for refrigeration servicing, two are operated by branches of the Y.M.C.A.

The Y.M.C.A. Trade and Tehcnical School in New York City, established in 1932, is the oldest refrigeration servicing school in the East.

This school graduates from 150 to 200 men a year. Many of these graduates are real estate operators or landlords or men who have good positions in other fields and who are interested in the schools from an academic viewpoint only. About 50% of the graduates, that is 100 men, are very desirous of entering the refrigeration field upon completing the course.

If these figures hold true for the other two schools, it means that only 300 men are available per year in the New York metropolitan area, to enter the field as mechanics.

These figures do not take into account the number of men who go to work for service companies as apprentices for, no matter how well a man may work in school, he must serve for a period in the field before he will be accepted as a seasoned mechanic.

In the New York area men just out of school are being hired at a starting salary of $35 per week with increases after a short period of work. Many students are hired before completing the course at $25 to $30 per week.

We find that many former refrigeration salesmen and owners of independent service and appliance concerns are turning to servicing work. If fathers in non-essential industries, men in 4-F, and veterans of the present war, were to go to school to learn refrigeration servicing, the present manpower shortage would be alleviated to some extent.

LYONEL BERKEN, Chief Instructor,
Refrigeration Servicing Trade & Technical School

P.S.—We make good use of the Refrigeration Service Manuals by Ken Newcum and the writer advises all graduates to subscribe to the AIR CONDITIONING & REFRIGERATION NEWS.

'NEWS IS WORTH TWICE THE AMOUNT CHARGED'

Zeman Electric Co.,
Marion, S. C.

Editor:

I have been a subscriber to the NEWS for the past two years, and would not be without it. I can truthfully say the NEWS has been worth twice the amount charged for a yearly subscription, to both myself and my business.

You have probably been wondering why I had not renewed my subscription which expired this past July.

For the past year I have been employed at an Army Air Base as Superintendent of Refrigeration, and we subscribe for a copy of the NEWS here each week, of which this still keeps me one of the family, and I intend to stay one.

F. T. Zeman

Inside Dope

By George F. Taubeneck

(Concluded from Page 1, Column 1)

"One million truck miles per day at an average of 10 miles per gallon of gas would mean 100,000 gallons of gas per day. Someone else can figure the tons of ice and the thousands of tires and all the other manpower and energy required to furnish the ice.

"Offsetting the savings in manpower, gas and tires, we have only the relatively small number of refrigerator servicemen, their coupes and the energy required to run the refrigerators. A conservative estimate of one call per year by a serviceman to each refrigerator, as against 100 calls by the flashy halfbacks to the ice boxes, would indicate a tremendous manpower saving.

"A serviceman can make at least eight calls per day, or let's say 50 per week (with overtime). Well, it's rather easy to estimate the manpower saving. I would guess that it might be as high as 70,000 flashy halfbacks.

"Somehow, if I were in WPB, or WMC, or OPA, or ODT, or OCS, or WFA, I'd be sort of glad that a great big industry had done such a fine sales job on mechanical refrigerators in the past two decades. Even if the flashy halfbacks were each supplied with a "dapple grey" instead of a "Chevrolet," the oats would be hard to get and so would the hay. 19,900,000 dependable mechanical refrigerators "ain't hay" but they certainly are saving it today!"

John-the-Baptist Lou Maxon

If one wants to get a bit classical, one could compare big, tough Lou Maxon—in his recent **tour de force** with the OPA—to both John the Baptist and Hercules.

Hercules cleaned out the Augian Stables. And John the Baptist, a "voice crying out in the wilderness," was the spat-upon forerunner of a great movement. He stated the case, read the text, was vilified for his pains—then left the scene for others to carry on with his theme.

It didn't take Brother Lou long to find out that OPA was loaded with make-America-over boys spawned by leftish Eastern colleges. It didn't take him any longer to find out what they were up to, and how they were doing it.

While he was inside OPA he took on the professors one-by-one, and **en masse.** While doing so he was subjected to the dockdangdest smear campaign undertaken by the left-wing press, the CIO, and the New Deal hatchet men since poor old School Superintendent Wirt from Gary, Indiana, happened into a New Deal bull session and came out, aghast, to spill the beans about what he'd heard.

Lou couldn't pick up a copy of PM without seeing himself denounced in 72 pt. Cooper Bold, or a copy of any paper without reading another slur cast by a union leader or campus pink.

The more often the snipers pinged him, of course, the madder he got and the harder he struck. He sacrificed himself (or did he?) in the process; but for gentle, politically wise Prentiss Brown, Lou did the job Prentiss saw should be done.

Those inexperienced professors are now out of there—most of them, at least.

Good Men Needed

P. S.: Just getting the social experimenters out of key positions doesn't finish the job, however. OPA needs men who understand distribution, and needs them badly.

Like the WPB, OPA is having trouble persuading business to part with its best men. This is a tremendously shortsighted policy on the part of business. Anything which so sharply affects the conduct of business as OPA does need the best men the business world can furnish it.

If you're tapped for an OPA job, you can serve your country—and business—in no better way than by accepting.

Watch This Gang

The CIO, of course, isn't taking the reformation of OPA lying down. They have organized 40 stooges in Congress into a "consumers committee" which has as its purpose the restoration of the CIO-Communist-Party-sponsored OPA program, which includes erasure of trademarks, grade labelling, standardization, and the like (all leading toward the eventual abolition of private enterprise).

Thomas Scanlon of Pittsburgh is chairman. Other members include Howard McMurray of Milwaukee, Michael Feighan of Cleveland, Chester Holifield of California, William Rowan of Chicago, Vito Marcantonio of New York, Will Rogers, Jr. of California — all Democrats except Marcantonio, who belongs to the American Labor Party. Donald Montgomery is "the brains."

Know any of these men?

Top Rating

Nash-Kelvinator war advertising leads that of all other motor companies in readership, according to the Starch Advertising Rating Service reports.

Readership of the advertising of the 10 motor companies carrying on wartime campaigns shows an average range of 3.3 per cent up to 10.2, with Nash-Kelvinator scoring the highest mark, the second company getting 7.4 per cent, and the third ranking at 6.6 per cent, the reports showed for a nine-month period.

Ensign Gauen

This department has just heard from Ensign Dick Gauen, who used to handle Kelvinator publicity so ably. From his Florida training base he writes:

"There are about 400 indoctrination students here. We arrived on Aug. 15 and will be finished Oct. 15, at which time we're supposed to know something about the Navy. The way they're throwing the stuff at us I'll know either a helluva lot or, through confusion, very little.

"There are fellows here from all over the U. S., although I have yet to find anyone from Marshall. I'd say they are a pretty average bunch —no geniuses or celebreties in the group.

"What we'll do when we're finished here no one knows. We've been told that some will get sea duty, others further training.

"Florida is hotter than hell and populated with the oddest animals. Land crabs, which are about the size of fairly large turtles, are always scurrying around our feet in class, room.

"We have the run of the place, including the beach, country club and golf course, volleyball, tennis and badminton courts. The hotel iteself is exceptionally well equipped and has fine accommodations."

Army Farmer

And from Lieut. George Hanning, one of our boys, we hear:

"No doubt you have read about the soldier boys being sent to the grain fields to help with the harvesting. Well, that's where my battalion is right now. Down on the farm at Mohall, N. D.

"In case you don't know where Mohall is, take a map of North Dakota, find the thriving city of Minot, run your finger 36 miles north and nine miles west. There in the heart of Renville County, you will find this prairie town of 650 population. Looking at Main Street you fully expect to see a gang of yelling cowboys gallop into town firing 6-shooters in the air. You have seen Mohall in almost every western movie.

"Even though you could, figuratively speaking, throw a stone across the city, it is the largest in the county. It has practically all facilities except a laundry and (aha!) ice. A beautiful market for refrigerators. Still, a salesman would have to talk against the weather.

"Even though this is August, it feels like late October. A jacket or coat is needed at night and the first thing in the morning. Only one day so far could be classed as warm.

"The farmers here have been grand to us. They welcomed new labor with open arms. All of the available men are working and that still only allows about three or four soldiers per township. Even with other imported labor, the situation is critical. The townspeople close up shop and go to the fields in the evening."

Three Manufacturers Discuss Substitution of Methyl Chloride for 'Freon'

* * *

Two Universal Cooler Bulletins Tell Service Men How to Make the Change

MARION, Ohio — The "when, where, and how" of substituting methyl chloride for "Freon-12" is outlined for service men in two bulletins issued by Universal Cooler Corp. over the signature of A. J. Mattes, service manager, with the statement that the company is quite opposed to changing refrigerants in the field.

"While we as a manufacturer do not recommend changing of refrigerant as a field service operation, it may become necessary in some cases to change systems designed for 'Freon' over to methyl chloride to enable their remaining in operation for the duration," the bulletin explains.

"This bulletin has been written in an attempt to assist in this emergency. However, we can assume no obligation for losses resulting from changing from 'Freon' to methyl chloride. This changeover must, therefore, be made at the risk of the owner and service company."

Three types of systems cannot be converted for methyl chloride, the bulletin states. These are:

1. Systems having hermetically sealed condensing units.

2. Systems having any parts such as evaporators, suction or liquid line produced from aluminum.

3. Systems having a capillary tube refrigerant control.

"Systems equipped with open type condensing units and not falling into one of the above classifications may be changed to methyl chloride," the bulletin continues, "as follows":

"1. Completely evacuate all 'Freon' from the system by discharging and drawing a vacuum of 29 inches and holding for several minutes. Break the vacuum by the addition of methyl chloride gas, close line valves, and remove compressor.

"2. Remove all oil from the compressor crankcase and recharge with new, dry refrigeration oil Part No. 55090. Re-install compressor on unit.

"3. If available install new Silica Gel drier in liquid line.

"4. Change expansion valve to one designed for methyl chloride unless system is equipped with an automatic expansion valve or an expansion valve having an external superheat adjustment, in which case it will be only necessary that the valve be adjusted.

"NOTE: Where it is possible to change superheat setting it will undoubtedly be necessary to experiment with adjustment until proper setting is obtained.

"5. Draw vacuum of 29 inches on entire system and again break vacuum with methyl chloride gas.

"6. Repeat Operation 5.

"7. Draw vacuum of 29 inches and charge with required amount of methyl chloride.

"NOTE: It will not be necessary to change compressor speed in converting from 'Freon' to methyl chloride. Under no condition should an attempt be made to convert a 'Freon' system to sulphur dioxide. Capacity would be entirely inadequate," concludes the bulletin.

Frigidaire Cites Many Factors Involved In Making Substitution

DAYTON—A bulletin covering the problems in the substitution of refrigerants has recently been sent out by the service department of the Frigidaire Division of General Motors Corp. Following are the instructions given:

Conforming With Local Codes

Many cities have rigid codes governing the installation of refrigeration equipment locally. Before converting to another refrigerant, be sure to see if this is permissible under the code.

Checking for Leaks

If you change over to another refrigerant, be sure first that there are no leaks in the system. The very fact that refrigerant is to be added is an indication that there must be a leak. Putting new refrigerant in a system that leaks is not only wasteful, but if the refrigerant has toxic, inflammable or explosive qualities, a very dangerous situation might result.

Methyl Chloride NOT Recommended for the Following

Frigidaire definitely does not authorize the use of methyl chloride in Frigidaire equipment used in the following installations:

Comfort air conditioning.

Multiple apartment house installations.

Household reciprocating installations where there is any kind of electrical contact operating within the food compartment.

Rotary sealed-in mechanical units —all types.

In systems employing synthetic rubber seals or gaskets.

Systems employing low-side float as refrigerant control.

Any equipment where a large volume of gas might be released in a confined space.

Systems having parts made of aluminum, zinc, magnesium and their alloys which come in contact with the refrigerant. (While these metals are not used where they can come in contact with the refrigerant in Frigidaire products, there may be cases where Frigidaire equipment is installed with other equipment using these materials).

Factors to Be Considered in Changeover

Where the supply of "Freon-12" is insufficient to maintain essential refrigeration in operation for food preservation (other than the above types of installations), a refrigerant changeover should not be made without giving consideration to the following factors:

1. In every instance the entire equipment (including condensing unit, refrigerant lines and evaporators) must be processed because of moisture.

2. Orifice openings in refrigerant control valves must be changed to adapt the valves to refrigerants other than "Freon-12."

3. The operating range of the control switch must be changed to conform with pressure-temperature relationships of other refrigerants.

4. The oil used in the system must be entirely replaced with the correct type of oil for the different refrigerant to be used.

5. Diameters of pulleys and sizes of belts used may be unsuitable for some other types of refrigerants.

6. Units which have been converted to methyl chloride should bear a conspicuous tag indicating this fact.

Before making any changeover to a substitute refrigerant, it is important that you first consult the service department of your district office.

Brunner Engineer Describes Experiments Using Mixture of Two Refrigerants

Brunner Mfg. Co.
Utica, N. Y.

Editor:

In a recent issue of the NEWS, you reported the unfortunate incident in a theater where the manager was being sued because of an accident involving the use of methyl chloride in an air conditioning system. Your method of handling this occurrence has led many installers to feel that the use of methyl chloride is extremely hazardous and might result in terrible accidents such as this, unless the system is handled with kid gloves.

Frankly, we do not know the details of the accident, but it has apparently left the industry so stunned that considerable harm might be done unless these details are disclosed and amplified. We by no means wish, necessarily, to champion methyl chloride; but we do know that it is only within the last year or two that the percentage of equipment which we supplied to the commercial field has leaned more toward "Freon-12" than methyl.

Prior to that time, by and large the greater number of condensing units were methyl, and we judge that most commercial installations today are using this gas with entire satisfaction and without danger.

Those in the industry who know anything about refrigeration appreciate that the gas is combustible and that, given the correct quantity of air and the necessary flame, methyl can be made to burn. The same is true of ammonia, which is used in mammoth quantities in all of our large cold storage installations, and also of the manufactured gas which comes into our homes and is used for cooking purposes. These hazards are always present and, as you have stated, require some degree of intelligence in handling; but we are against the scare psychology which seems to permeate situations of this kind and which can do considerable harm to our industry.

The requirement that many of our present "Freon-12" installations be changed to methyl chloride prompted us to make an experiment a few days ago with a regular refrigeration system. We tested this system with various quantities of refrigerant, starting with 100% "Freon-12," and then a mixture of 75% "Freon-12" and 25% Methyl, 50% of each, 25% "Freon-12" and 75% Methyl, and 100% Methyl.

We were considerably interested in finding, on the basis of this test, that as the percentage of Methyl increased, we were able to maintain the room temperature at higher evaporator temperatures, so that the capacity of the system increased slightly. This indicated that the addition of methyl, because of its better heat transfer, improved the performance of the lowside. The head pressure on the compressor increased above that of pure "Freon-12." This condition tended to improve itself, however; when we reached a mixture of 25% "Freon-12" and 75% methyl the head pressure had dropped to about what it was when using 100% "Freon-12." Any further increase in the percentage of methyl from this point showed somewhat better capacity and B.t.u./hr. requirements over that of "Freon-12."

It can be seen, therefore, that from a performance standpoint the substitution of methyl chloride into a "Freon-12" system does not reduce the capacity, because there is an improvement in the evaporator performance; and that the greater the percentage of methyl the more improvement in overall system performance.

Therefore, if we ignore some of the complications of control settings, etc., we found no objection to mixing the two refrigerants or making up the deficiency in a "Freon-12" system with methyl chloride.

We have discussed this matter with some well-informed engineers who report similar findings, and we have contacted the refrigerant manufacturers; and we can find no reasons to suspect that there will be any chemical reaction between the two gases which might cause corrosion.

In view of these findings, we were tempted to suggest to the trade that they merely make up lack of "Freon-12" with methyl; and we actually know of several field installations where this has been done with no difficulty.

It has come to our attention that many people understand that the accident referred to initially occurred because of mixing the two refrigerants in the theater installation. This is not our understanding, and in an effort to improve and clarify the entire situation we have written you and disclosed the information given herein to assist in this aim.

S. R. HIRSCH, Chief Engineer

Local and National Training of Service Men Discussed by Industry Committee & OCR

NEW YORK CITY—How groups of service employers in some metropolitan areas have attempted to solve the problem of refrigeration service manpower was brought to light at the meeting recently in Washington sponsored by the Office of Civilian Requirements, it is revealed in a more complete report of that meeting made available by Nathan Edelstein of New York, secretary of the National Refrigeration Service Manpower Committee.

Also brought out in the report on the meeting was the manner in which government agencies can assist in training programs for essential skills.

DEFERMENT SETUP PERMANENT

The Aug. 14 Selective Service regulation, Webster Powell, assistant chief of the manpower branch of OCR, pointed out in opening the meeting, placed refrigeration servicemen in a super-deferment classification. That deferment setup is not merely until Oct. 1, he emphasized, but is permanent.

Protection against further losses of refrigeration servicemen to the armed forces thus is assured, but their number had already been cut to a point below national operating efficiency before the regulation was passed, he added.

There is still a need, then, not only for experienced men to fill out the inadequate supply, but also for less experienced men such as helpers and those who can take care of minor service operations. A refrigeration training program, he said, is next in order.

The presence of a War Emergency Committee in Cleveland, reported Warren Farr, did much to gain recognition of the refrigeration service problem there. A greater difficulty has been deferment of supervisors of servicemen, upon whom the success of any service program will depend.

Various big manufacturing companies in the Cleveland area have agreed to furnish training instructors, supplies, equipment, if the local service organizations will provide the classrooms and candidate trainees.

26 JOIN IN CLEVELAND

Twenty-six Cleveland service organizations have subscribed to the plan, and in another three months the course should be under way. Trainee candidates must have a mechanical background, he stated; it does not have to be refrigeration experience.

The course will run for three months, with sessions three times each week, for two hours each evening. Outside service training will follow satisfactory completion of the course.

The training period is long enough to discourage those who are not qualified or not really interested, Mr. Farr said, but those who finish it will be paid 70 cents an hour during the day, working for refrigeration companies in the city, and will have opportunity to take night classes for developing further skills.

DIFFICULT IN N. Y. C.

Organization of a refrigeration training course had proved more difficult in the New York City area, reported Theodore Reina, of the board of directors of the Refrigeration and Air Conditioning Guild. The cooperation of the larger manufacturers and distributors, and of the city's board of education, had proved less satisfactory than setting up a course in the Guild's own service shop.

This was true also of the government agencies there, corroborated Nathan Edelstein, president of the Guild. The War Labor Board could not see its way clear toward increasing the wages that could be offered to beginners, or to trained servicemen employed elsewhere.

Nor could the Office of Price Administration boost the rates that servicemen might charge for their work or for the materials they often were required to replace in repair jobs.

A thorough training program acts as a sound complement, Mr. Edelstein pointed out, but it cannot be expected to fill in the immediate shortage of servicemen. Some action is needed to allow and encourage trained refrigeration servicemen working at other jobs to return where they are needed badly, now!

Both the War Manpower Commission and the city's board of education gave full cooperation in setting up the training program in Detroit, acknowledged George Johnston, vice president of Detroit's Refrigeration Contractors Assn. (see the NEWS, Aug. 9, p. 1).

FINDING NEW MEN

Their greatest problem had been one of interesting new men in taking up refrigeration servicing as a business. Of the 40 men now taking the course, 39 had previous service experience.

Older men cannot pick up the intensive training fast enough, instructors had found. A service call used to average one hour's time; now, with older refrigerators to handle, and repairs being made to do when replacement with new parts actually is called for, the average service call crowds a two-hour limit, he said.

There was general agreement that the most immediate and practical solution to the problem would be the return of trained servicemen, now working in other industries.

Getting such a program under way would depend upon three major guarantees: deferment status equal to that carried by war defense industries (which is up to Selective Service), wages comparable to those received in war industries (a matter for WLB), and rates and prices allowing a fair margin of profit (a decision for OPA).

CONSIDER SMALL CITIES

Paul Reed, service manager for Servel, Inc., and director of Refrigeration Service Engineers Society's wartime training program, pointed out that the problem under discussion was not confined to big cities only.

Any solution worked out should be applicable to all the smaller communities facing the same service shortage, he stated. For that reason a program operated by the government probably would be most practical, with cooperation by private industries included in its functions.

Some aspects of the practical workings of such a planning program were presented by J. S. Bartlett, managing director of the Electric Institute of Washington, D. C., whose organization established a group replacement schedule and training plan early in August (see the NEWS, Aug. 16, p. 10).

The group replacement schedule was set up to remedy the small service firms' lack of time and technical ability to argue their separate cases before their local draft boards.

REPLACEMENT FORM

The Institute drew up a form, usable by any company having less than 25 employes, giving the full experience and draft status of each man in its employ, and whether or not his induction was probable within six months. When filled out, the form gave each company a picture of the immediacy of its serviceman replacement needs.

Under the training schedule set up by the Washington group, the Institute found it could not interest trainees at $25 a week. Too many unemployed men found better-paying jobs even in untrained classifications.

The organization instead approached men already working in other jobs, presented the idea of a free 12-weeks evening training course, and promised them jobs among the member companies, upon successful completion of the course, starting at $35 a week.

Actual training in specific refrigeration problems would go on from this point. The idea sold itself, and the Institute weeded out 26 candidates from the 96 who applied. These men face the prospect of steady postwar employment in a field that pays well, Mr. Bartlett reported.

J. J. Tressari, chief of the industrial division of WMC's bureau of training, here outlined the breakdown of government training agencies, and explained the administration of each. This led of course to the question of whether such a program would answer the problem presented by the refrigeration servicemen's situation.

There was some discussion on this point. Mr. Tressari presented an example from WMC's experience. A group of automobile repairmen in Philadelphia drew up this plan:

Newspaper advertisements launched the campaign, offering to a few individuals, unusual opportunity to learn a highly skilled trade, and stability of employment in that trade, and asked for applicants.

Each man was interviewed by the members of the group, and any one of them then could speak for him as an employe-trainee. The employe was paid $29 a week, and attended full-time classes for eight weeks, after which he became a regular worker.

The employe could continue to take supplementary courses for two nights each week for a year, at the end of which time he was given top pay in his classification. The program had worked very satisfactorily, Mr. Tressari was able to report.

Mr. Reed asked how this type of program could be successfully administered in rural areas. Mr. Tressari again drew upon actual experience.

WENT TO HILL COUNTRY

The WMC training program was asked to furnish welders for the shipyards at Panama City, Fla. They went up into the Kentucky, Tennessee and Virginia hills, into towns of 2,500 population and less, and set up welding schools.

The applicants were paid while training, or dropped as soon as they obviously were not cut out for the job. But 1,000 of them learned welding during six weeks and were sent to the shipyards.

The refrigeration servicemen's group saw no reason why the plan should not be worth serious trial, and the task committee headed by Mr. Wyllie was chosen at this point to submit a plan of recruitment and training to the WMC training board.

The meeting officially closed upon this decision, but the task committee remained to set up a few beginning procedures. The committee agreed to wire to General Hershey a request that he renotify each local draft board that refrigeration servicemen are now on the permanent super-deferment list.

They agreed also that all service organizations should notify their individual members of their rights under the new deferment regulations, and that the plan set up by the task committee should be communicated to all those organizations as soon as formulated.

Servicing Sealed Units Of Kelvinator Design

Written in collaboration with the service department, Kelvinator division, Nash-Kelvinator Corp.

1940 Electrical Service and System Replacement

The relay and wiring set-up for 1940 models is practically the same as for 1939 models. Refer to Figs. 16 and 17 for wiring diagram and test equipment. System replacement is practically the same as for 1939.

"High Humid models do not present a difficult problem of replacement as the cooling coils and freezer are mounted on a removable section that fits into the back of the cabinet quite similar to the standard models.

1941 Electrical Service

Two relays were used in 1941; the same design used in 1939 and 1940 was used (this has been thoroughly described, see Fig. 14) and a bimetallic relay, shown in Fig. 19. The operation of this later type is described in the following paragraphs.

The overload thermal element carries all current going to the condensing unit motor. When this thermal element is carrying no current (thermostat off), both relay contacts are closed. As soon as the thermostat cuts in, the relay contacts which are closed, allow the current to flow through the starting and running windings and the unit starts.

The starting thermal element warms rapidly and warps, pulling the contact arm away from the starting winding contact. The running winding contact then remains in the closed position and stays there during normal operation. In this position the starting contact is open and the overload contact is closed.

If for any reason the unit should draw excessive current, this increased heating of the overload element causes the thermal overload contact to break and stop the motor. When the thermostat cuts out after a normal cycle, the thermal element cools and the switch returns to the starting position after a minute or two. After an overload cut-out the relay is in the open position. After a minute or two of cooling, both moving contcast return to the starting position. The time required for the thermal element to reset, fluctuates with room temperature.

Fig. 20 illustrates the test equipment recommended.

This consists of simply a calibrated relay, unit lead wires, and a service plug.

To test for an imperfect relay, disconnect the wires from the three motor terminals and connect the test leads in their place. When the test leads are connected to the circuit as shown, a definite test for relay trouble can be made.

If the motor starts with the calibrated relay and does not start with the original, a replacement relay should be installed. If the motor does not start with the original or the test relay, discard the idea of relay trouble and check through the circuit from the thermostat. Should all tests prove the thermostat, relay, and wiring satisfactory, the trouble is internal and the system should be replaced.

A service man should be positively certain that a calibrated relay or a stock relay is in the circuit to protect the motor windings before starting a sealed system.

Changing a 1941 Sealed System

The standard 1941 system is replaced in the manner described for changing 1939 and 1940 systems (Fig. 18).

Replacement of the primary system in "Moist-Master" models presents a different problem however, the procedure is quite simple. The cabinets have been constructed with a removable section fitted into the back, through which the thermostat wire, suction, and liquid lines pass. The inner plate of this section is fastened to the food compartment liner and the outer plate is gasketed to the cabinet outer wrapper, preventing infiltration of moisture to the insulation from outside of the cabinet.

This arrangement permits easy assembly and disassembly for field service as the entire high side, low side, and connecting lines of the primary system are handled as a single piece of equipment. The primary tubing coil surrounding the secondary system reservoir, fits snugly to insure good contact for proper cooling.

When removing the primary system (see Fig. 21) the retaining clamp (1) and rubber cover (2) surrounding the reservoir of the secondary system must be removed first. The insulation (3) under this cover can then be removed. Next, the sleeve clamp (4) which holds the primary coil against the reservoir must be loosened and lifted off. Finally, the rubber base (5) that fits around the tubes below the reservoir must be removed.

When lifting the primary coil (6) upward to remove it from its posi-

(Concluded on Page 15, Column 1)

The special half-price offer on the "Refrigeration Engineer's Manual" by S. L. Potts has been withdrawn and the book now returns to the full established price of $3.

Because of the tremendous demand for all books in the Refrigeration Library, our Book Department has fallen behind in filling orders. Patience is requested as all orders for books will be filled in turn.

Fig. 19. One of Relays Used In 1941 Models

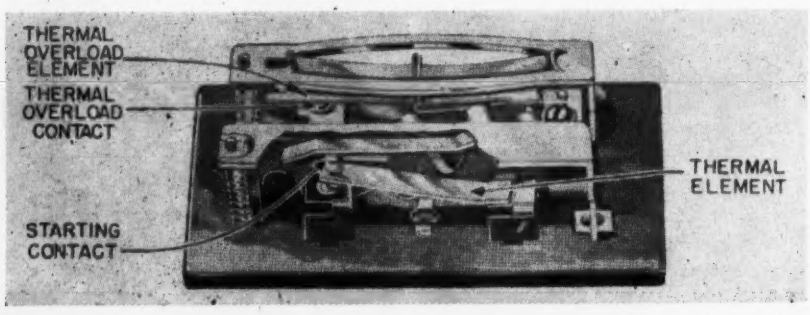


Fig. 19. This is one of the two types of relays used in the 1941 Kelvinator models. The other type (see Fig. 14) was also used on '39-'40 units.

Fig. 20. Equipment To Test Relays

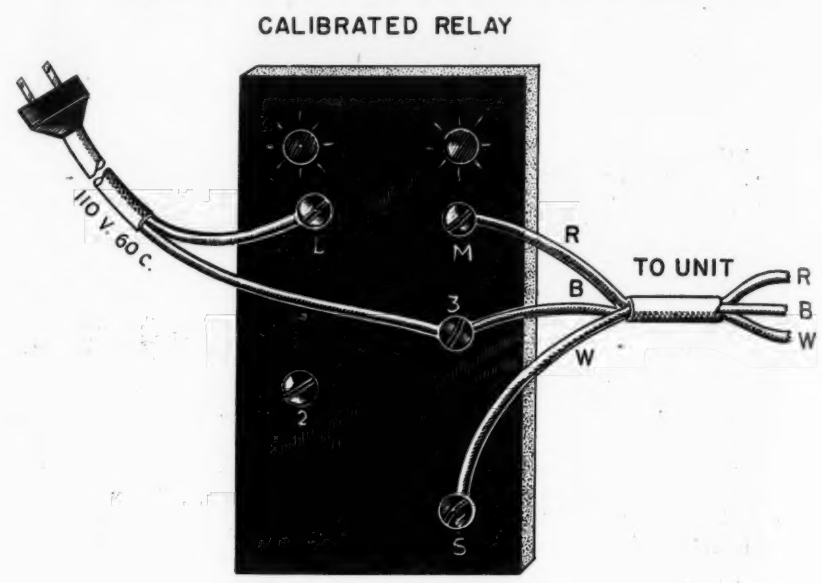


Fig. 20. In testing for an imperfect relay it is recommended that the equipment above be used. It consists of a calibrated relay, unit lead wires and a service plug.

Fig. 21. How To Remove Primary System

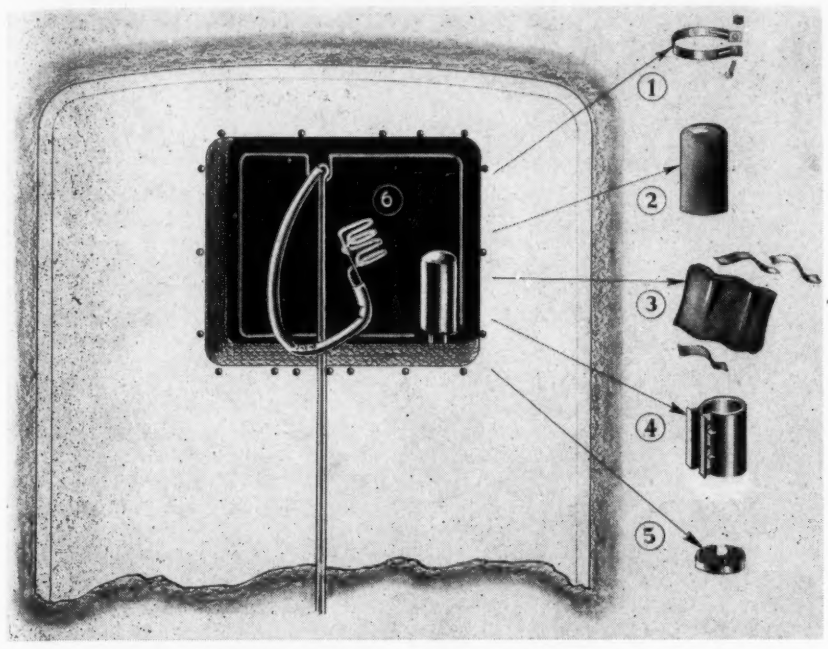


Fig. 21. Parts to be disassembled in removing the primary system of the "Moist-Master" models are illustrated above. Key to the parts is contained in the step-by-step procedure outlined in the text.

Changing a 1941 Sealed System (Cont.)

(Concluded from Page 14, Column 5)

tion around the reservoir, care must be taken so that the coil does not become distorted or spread in any manner. As close contact must be maintained between these two important parts, we cannot emphasize this too strongly.

After installing a replacement system and carefully placing the coil over the reservoir, check thoroughly to be certain that there is good contact before assembling the sleeve clamp. Tighten the sleeve clamp in place, carefully replace the insulation, then install the rubber insulation cover; fitting it tightly around the rubber base. Secure the assembly with the external retaining clamp. Be certain that all of the foregoing precautions have been taken and that the clamp makes the assembly air tight.

The secondary system is not replaceable in ordinary field service. A new liner and coil assembly must be installed.

1942 Electrical Service

Electrical service for 1942 does not differ to any great extent from the service described for 1941 systems. The same relay (Fig. 19) is used and the method of electrical testing is unchanged (see Fig. 20).

1942 System Replacement

Replacement of the standard and Moist-Master systems is accomplished in the manner described previously for 1941 models.

Illinois RSES Plans Convention Oct. 17

ROCKFORD, Ill.—Illinois Association of Refrigeration Service Engineers Society will hold its annual convention at the Nelson Hotel here Sunday, Oct. 17, announces G. W. Dresback of Normal, Ill., secretary.

Herman Goldberg, manufacturers' representative in Chicago, will be the main speaker of the meeting, and is expected to discuss priorities and other refrigeration problems of today and the future at the afternoon session. Two other speakers will also be engaged for this part of the program.

The meeting will open at 10 a.m. Sunday. E. A. Plesskott, national president of the R.S.E.S., and J. W. Power, acting national secretary, will address members at this morning session. Following election of officers and committee reports, the meeting will be adjourned for luncheon.

Army Mechanics Study Enemy Refrigerator

CAMP LEE, Va. — If captured enemy equipment, and that includes refrigerators, can be put back into service in the field, overtaxed supply lines will be relieved and needed equipment made available to the soldiers.

But since the average soldier-service man is not familiar with foreign refrigeration machinery, officers and instructors of the Refrigeration School at the Quartermaster Replacement Training Center here are devoting a portion of their training program to the study of imported equipment.

An ATE German household refrigerator manufactured at Frankfort on the Main in 1938 and brought to this country before the war broke out was recently acquired by the school. It is of 5 cu. ft. capacity and is powered by a 50 cycle 220 volt motor as contrasted with the standard American 60 cycle 110 volt motor.

In stripping the unit to compare its parts with those of American make, students and instructors were impressed with the small size of the compressor and the concealment of the tubing within the walls of the box. Methyl chloride is the refrigerant used, and the refrigeration cycle is said to be practically identical with the conventional American household refrigerator.

The unit was requisitioned and donated to the school by two members of the teaching staff, Lieut. Max B. Fanning and Master Sergeant Elton W. Mattson.

When American forces took Guadalcanal some time ago, they captured much Japanese equipment, including an American-made refrigeration unit which the Japanese army had acquired before Pearl Harbor. Repairing and operating this familiar unit was comparatively simple for the refrigeration experts on the island.

Ventilating Permits Use Of Windowless Space

BERWICK, Pa.—Use of basement space with no outside ventilation at the American Car and Foundry Co. tank arsenal here has been made possible through the installation of Carrier ventilation equipment. The space is now used as an I. B. M. room, where many machines and employes are working on vital war assignments.

A Carrier ventilating fan with a filter box has been installed just outside the room, with ductwork carrying the air into the basement space. High velocity air is used for distribution, with 1,700 duct v.p.m.

In order to obtain the full effect of the outlet area, the interior of the duct is fitted with a tear drop deflector just in advance of the outlet and uniform distribution of the air is obtained.

Considerable Copper Water Tubing Now On Hand, WPB Says

WASHINGTON, D. C.—Considerable quantities of copper water tubing, types K, L, and M, are available for redistribution, according to a War Production Board directive restricting production of such tubing to orders bearing the approval of WPB. Text of the order follows:

"The following direction is issued pursuant to CMP Regulation 1.

"(a) The Copper Recovery Branch of the War Production Board has had reported to it considerable quantities of copper water tubing, types K, L and M, which are available for redistribution.

"(b) Consequently, no order for copper water tubing, types K, L, or M, shall hereafter be produced by you until you have received a specific authorization in writing from the War Production Board to fill the order. Such an authorization may be applied for by you from the Copper Recovery Branch, War Production Board, 200 Madison Ave., New York, N. Y. The application should state the name of the person seeking to place or who has placed the order, and the quantity, type and size of copper water tubing required to fill it. Notwithstanding the above, until Sept. 20, 1943, copper water tubing, types K, L, or M may be produced against orders accepted before the date on which this directive is issued.

"Issued this 13th day of September, 1943."

Philadelphia Service Managers Find Benefits In Group Activities

Crowd Jams Registration for Service School

Advance estimates of possibly 50 registrants proved quite conservative when more than 200 men eagerly signed up for the refrigeration course conducted by Refrigeration Service Managers in Philadelphia. As shown above, the officials were swamped by would-be service men and others who wanted to improve their knowledge.

200 Attend School for Service Men Conducted by Association

PHILADELPHIA — As has long been known, there are many things and ways of doing things in Philadelphia that are "different" from those in other parts of the country—from the manner and accent of the Philadelphian's speech to the taste of the water that he drinks. The nature of the refrigeration business follows out this theme by being "different" too.

Probably the main point of difference in the nature of the refrigeration business between Philadelphia and other metropolitan communities in the United States is that the changes in the type of distribution and service organizations that were so widespread in the industry in the five to seven years prior to the war were not nearly so pronounced in Philadelphia.

RESEMBLES EARLIER PERIOD

While there have been many changes, of course, the distribution setup in Philadelphia more generally resembles that which would have been found in the period of say 1930 to 1934 than one would find anywhere else in this country today.

Significance of this is that particularly where household electric refrigeration is concerned, service as well as sales is carried out mainly through a distributor-dealer type of setup, with a number of the distributorships having a history that runs right back to the beginnings of electric refrigeration itself.

Consequently, it is claimed that by far the larger part of the refrigeration service work that is done in the Philadelphia area is by the service departments of the distributorships, or by dealers operating under distributors. This is in contrast to the current situation in other metropolitan areas, where the bulk of the servicing job, according to all available information, is apparently being handled by independent service contractors.

STARTED LAST SPRING

Prior to the spring of this year there was little concerted or cooperative activity among those engaged in refrigeration service on such problems as manpower, shortage of parts, gasoline rationing, etc. A major step towards joint thinking and action took place this spring with the formation of the Refrigeration Service Managers Group of the Electrical Association of Philadelphia.

Now included in this group are representatives of 10 firms which distribute electric refrigeration equipment in the Philadelphia area. They meet regularly at the very fine quarters provided at the headquarters of the Electrical Association, and Sheridan Taylor of the Electrical Association meets with them and handles much of the arrangements having to do with subjects and speakers at their meetings, and also takes care of many details of the various problems which the group tackles from time to time.

The tie-up with the Electrical Association, which is at least the equal of any organization of its type in the country, is advantageous to the Refrigeration Service Managers in more ways than merely providing a ready-made meeting place and facilities for handling detail. The Association has accomplished a great deal in establishing contacts with the various government agencies that are concerned with rationing, price control, priorities, and the like, and these contacts have proved of value in getting the proper ear for the problems of the Refrigeration Service Managers.

PRESENT THEIR CASE

As the problem of refrigeration service manpower became more acute, the Refrigeration Service Managers of Philadelphia took cognizance of it, and filed a brief on the problem to State Selective Headquarters for Pennsylvania, outlining in detail the essentiality of refrigeration servicemen and the fact that too little consideration was given their deferment. (This brief was published in the Aug. 2 issue of AIR CONDITIONING & REFRIGERATION NEWS).

A copy of the brief was sent to the General Industrial Equipment Division of WPB, where one sharp-eyed official detected the fact that the number of calls handled in 1941 was greater than that handled in 1943. "I think this weakens your case," the official commented.

This resulted in a comparative analysis being made of the calls handled by one company represented in the group for the period of June 1941 and June 1943. Particular attention was given to the average time spent on a call. The data was drawn up in the form of the chart which is illustrated.

The analysis bears out contentions which are common knowledge to those engaged in the refrigeration service business, but which might easily escape the attention of those not familiar with the field.

CALLS ARE LONGER NOW

Principal point brought out in the chart, of course, is that while the number of calls handled decreased 12%, the number of men available to handle calls decreased 30%, and the average time which it was found necessary to spend on calls increased 27.7%.

This provides concrete evidence of the fact that the remaining servicemen on the job are being "loaded up" with more work than they can really handle in a truly efficient manner.

One big reason why the average length of time per call has increased is that with a scarcity of parts, it has been necessary to "repair" and "patch up" more systems where once the simple procedure of replacing a part would put the system back into working order.

Another factor is that many of the men now doing the work are not veterans, but may be new men who are relatively inexperienced, and thus slower on the job.

'IN-WARRANTY' CALLS DROP

A third and not quite so obvious factor, which nevertheless shows up on an inspection of the chart, is the great decrease in the number of "in-warranty" calls as existing equipment grows older and no new equipment is produced. The great percentage of the "in-warranty" calls involved some trivial readjustment that took little time, in contrast to the other types of calls that are today demanding over two hours time per call.

Another project sponsored by the Refrigeration Service Managers of Philadelphia was a training program for persons interested in learning about refrigeration service and maintenance. Early this year preliminary plans were made for instruction to

(Concluded on Page 17, Column 3)

Reace Heads Utility's Sales

CHICAGO—William T. Reace, formerly assistant to the vice president of Commonwealth Edison Co., is the new vice president in charge of sales. He succeeds Gaylord A. Freeman, who has retired.

Chrismer, Easy Treasurer, Dies

SYRACUSE, N. Y. — George K. Chrismer, treasurer of Easy Washing Machine Corp., died recently at his home here. A native of Philadelphia, Mr. Chrismer had been treasurer for three years at Easy.

Philadelphia Service Students Learn Through 'Personalized Instruction'

Watching a household refrigerating mechanism being taken apart by an expert, these students of the school conducted by the Refrigeration Service Managers of Philadelphia, learn the names and functions of the various parts of the machine. Special effort is made to ensure the students' receiving "personalized instruction."

All eyes are on the instructor as he makes final adjustments on the condensing unit preparatory to demonstrating operation of a refrigeration system. By observing the gauges under careful guidance of the instructor, students actually see what is meant, for example, by the terms "head pressure" and "suction pressure," and are told what part they play in the refrigeration cycle.

Desire for Advanced Instruction Leads To Summer Classes

(Concluded from Page 16, Column 4)

be given at the Murrell Dobbins Vocational School, publicity was given to the proposed venture, and an enrollment date was set.

It was thought that 30 to 50 men might show up to take the course—when more than 200 jammed the registration desks on enrollment night those who had planned the course were flabbergasted. However, the group set about to find larger quarters, more instructors, and sufficient equipment for use in practical training operations, and managed to provide instruction for those who desired it.

The course of instruction was relatively elemental, and many of those taking it expressed a desire to go ahead to advanced studies. Thus in May the Refrigeration Service Managers, working with John J. L. Gross, Coordinator, Murrell Dobbins Vocational School, worked out details of two summer refrigeration training courses, one on advanced or commercial refrigeration, the other on household refrigerators.

NO SPECIFIC PLAN

However, there has thus far been no effort to tie up this refrigeration instruction with any kind of a specific plan to get recruits to relieve a refrigeration service manpower problem.

The Philadelphia Service Managers devoted their efforts to the school as a sort of general contribution to the refrigeration industry.

While it is true that the majority of those who took the instruction were maintenance engineers for war industries, local industry and real estate management concerns, and apartment house maintenance men, yet there undoubtedly were many who took the course as an entering wedge to getting into refrigeration service as a trade.

The Service Managers group apparently believed that these men would filter into the service field naturally, but it is likely that as future training is given, some special effort will be made to see that a portion of the students, at least, are actively recruited to fill existing manpower shortages.

Problems of manpower have not been attacked cooperatively, other than the brief filed with Selective Service, by the Philadelphia Service Managers. The individual distributors have handled the problem of deferments and training of servicemen on their own.

SOME TRAINED WOMEN

Some have made an effort to train women, with one reporting some success on minor sorts of jobs, particularly involving household units, and another reporting complete failure, as far as work on refrigeration equipment was concerned. The one who reported failure declared that the male members of his organization were suspicious and resentful of the women who were being trained, as though some plan were afoot to substitute women for all men in the organization.

Calls Take Longer Now, Chart Shows

	1941	1943	1943 Increase	1943 Decrease
Number of men on street.....	20	14	....	30%
Number of 'In-Warranty' calls.	1,000	80	....	92%
Number of 'Paid' calls.....	2,088	2,623	25.6%	....
Total of all calls.....	3,088	2,703	....	12.4%
Avg. time on 'In-Warranty' calls	1 h.13 m.	1 h.28 m.	20.5%	....
Average time on 'Paid' calls...	1 h.51 m.	2 h.10 m.	17.1%	....
Average time on all calls.....	1 h.41 m.	2 h. 9 m.	27.7%	....

Comparison of records on service calls in 1941 and this year reveals a big increase in the time spent on each call, Philadelphia Service Managers found. While the total number of calls decreased, there were more "paid" calls and considerably fewer "in-warranty" calls. "Paid" calls, especially nowadays, usually mean more extensive repair work than the average "in-warranty" service calls.

Brown Uses 'Scoreboard' To Boost Production

PHILADELPHIA—The oldest and yet most efficient means of stimulating production—the scoreboard method—is being instituted by the Brown Instrument Co., division of Minneapolis-Honeywell Regulator Co. here.

Production goal scoreboards will be erected in various key departments, each containing a head drawing of Uncle Sam who is quoted as saying, "I need instruments to make more. This month please ship . . ." In the space left will be inserted the number of instruments expected.

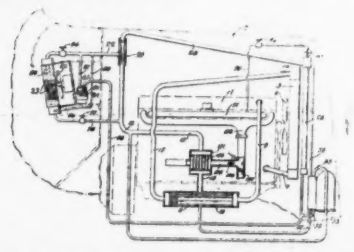
Mueller Brass Co. Declares Dividend of 40 Cents

PORT HURON, Mich.—Dividend of 40 cents a share on the common stock, payable Sept. 30 to stockholders of record Sept. 17, has been declared by Mueller Brass Co.

PATENTS

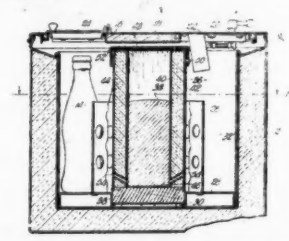
Weeks of Aug. 24 & 31

2,327,451. AIR CONDITIONER. Lester E. Perrine, Highland Park, Mich., assignor to General Motors Corp., Detroit, Mich., a corporation of Delaware. Application Oct. 27, 1941, Serial No. 416,619. 7 Claims. (Cl. 257—7.)



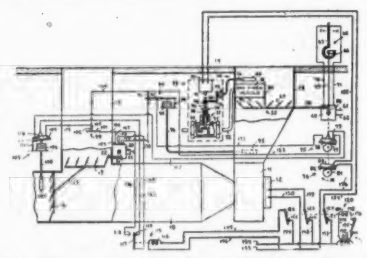
1. In a cooling system including a boiler, an evaporator, and a condenser for a refrigerant, and an injector between the boiler and the condenser through which a jet of vapor from said boiler is passed to the condenser, said injector having a suction line to said evaporator above the level of liquid refrigerant therein, through which a vacuum is drawn on the refrigerant liquid in said evaporator to lower its temperature, automatic means for returning liquid refrigerant from the condenser to the boiler including a tank with an inlet for liquid refrigerant from the condenser, an outlet for vapor to the condenser, an inlet for vapor from the boiler, and an outlet for liquid refrigerant to the boiler, valves for said inlets and outlets, said valves opening outwardly of said tank against the pressure of the spring means normally holding them closed, and means responsive to the level of liquid refrigerant in the tank for opening the first two of said valves while the other two valves are closed and vice versa, respectively to permit liquid refrigerant from the condenser to flow into the tank when the liquid level therein falls below a predetermined height and to permit liquid refrigerant from the tank to flow into the boiler when the liquid level in the tank rises above a predetermined height, the spring of said outlet valve for vapor to the condenser being stronger than the spring of said inlet valve for liquid refrigerant from the condenser, whereby during the periods when the inlet valve for vapor from the boiler and the outlet valve for liquid refrigerant to the boiler are open and the outlet valve for vapor to the condenser and the inlet valve for liquid refrigerant from the condenser are normally closed, the inlet valve for liquid refrigerant from the condenser will function as a safety valve limiting the maximum pressure in the boiler by opening when the boiler pressure through the inlet valve for vapor from the boiler is sufficient to overcome the pressure of the spring of the inlet valve for liquid refrigerant from the condenser, and permitting liquid refrigerant to be forced back therethrough into the condenser.

2,327,520. REFRIGERATED PORTABLE BOTTLE VENDOR. Joseph E. Hagstrom and Olaf C. Olsen, Kansas City, Mo., asignors to C. Earl Hovey, Kansas City, Mo., as trustee. Original application Oct. 25, 1940, Serial No. 362,734. Divided and this application March 17, 1941, Serial No. 383,754. 4 Claims. (Cl. 62—91.5.)



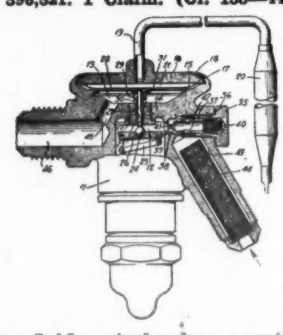
1. In a vending machine of the character described, a closed case; a floor within said case having a well formed therein; a rack for packaged goods on the floor surrounding the well; and a refrigerant container having a base seated in said well, said container having inner and outer metallic walls contiguous to each other at intervals along vertical lines to effect transfer of heat radially from the container toward said rack.

2,327,536. GAS FIRED AIR CONDITIONING SYSTEM. James S. Locke, Park Ridge, Ill., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., a corporation of Delaware. Application Dec. 11, 1941, Serial No. 422,513. 13 Claims. (Cl. 236—91.)



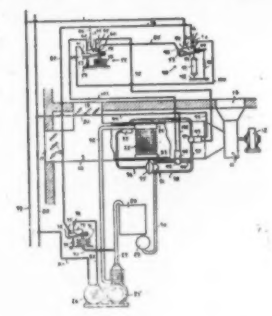
11. In an air treating system, in combination, a fresh air duct, a return air duct, a third duct connected to said other ducts for conducting the mixture of fresh and return air back to a space to be conditioned, temperature control means including a heat exchanger in one of said ducts, temperature responsive means in control of said temperature control means for regulating the temperature in said space, a fresh air damper, means for causing said fresh air damper to move to its minimum open position when said temperature control means is operative, and means for positioning said fresh air damper in accordance with the temperature of the air discharged to said space when said temperature control means is inoperative.

2,327,542. REFRIGERANT CONTROL VALVE. Harold J. Matteson, Glendale, Calif., assignor to General Controls Co., Glendale, Calif., a corporation of California. Application June 2, 1941, Serial No. 396,321. 1 Claim. (Cl. 138—44.)



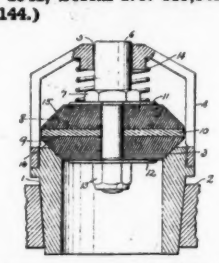
In a fluid control valve: a casing having a valved passage therethrough, a portion of said passage being at an angle to an adjoining portion thereof, said casing also having a bore branched from said passage at the intersection of said portions and extending to the exterior of the casing, a cap closing the outer end of said bore and having a part extending therewithin, said part providing a cylindrical recess concentric with said bore, the bore being coaxial with one of said passage portions, an elongated cylindrical member freely receivable in the bore and having an end portion fitting within said recess of the cap, said member having at its other end a plane surface engageable with a plane shoulder formed at the end of said one passage portion at said intersection, said member providing a restricted opening through which the fluid controlled by the valve must pass when the member is in shoulder-engaging position, and a spring compressed between the cap and the member and urging the same into engagement with the shoulder.

2,327,544. AIR CONDITIONING SYSTEM. Alwin B. Newton, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., a corporation of Delaware. Application Dec. 3, 1938, Serial No. 243,843. 22 Claims. (Cl. 62—6.)



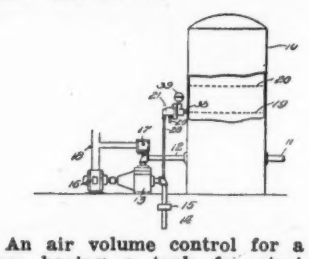
1. In a system of the class described, an evaporator means, means for circulating refrigerant through said evaporator means, thermostatic expansion valve means for controlling the flow of refrigerant through said evaporator means, said expansion valve means including means responsive to conditions of temperature and pressure of the refrigerant within said evaporator, and valve means for selectively causing said last named means to respond to different pressures with respect to the evaporator means to cause different degrees of superheat of the refrigerant to be maintained at the outlet of the evaporator means.

2,327,600. VALVE ASSEMBLY. Louis H. Kennon, Houston, Tex. Application March 29, 1941, Serial No. 385,841. 1 Claim. (Cl. 251—144.)



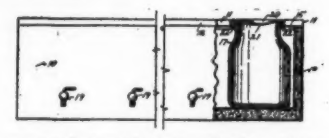
In a valve assembly having a tapering seat and valve cage having valve guiding surfaces, a valve composed of a metal plate, two similar discs on opposite sides of the plate and formed of hard composition material, said discs and plate being of the same transverse diameter, so that the metal plate will contact the guiding surfaces of the cage to protect the margins of the discs from wear, means including a stem for clamping the disc and plate assembly together as a unit, the opposite sides of the valve having plane, parallel surfaces and having similar annular, marginal, tapering faces which converge outwardly from the stem toward each other and which are shaped to selectively fit said tapering seat.

2,327,601. AIR VOLUME CONTROL. Walter E. Kent, Decatur, Ill. Application March 12, 1942, Serial No. 434,409. 20 Claims. (Cl. 103—7.)



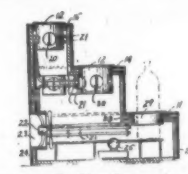
1. An air volume control for a liquid system having a tank for storing the liquid under pressure and a pump for supplying liquid to the tank comprising a casing provided with a suction chamber having an outlet port communicating with the pump and an air inlet, the inlet being open when a suction is established in the chamber and closed at all other times, a valve for controlling flow through the port, and a movable member connected to the valve and responsive to a predetermined tank pressure for closing the valve.

2,327,630. COOLER CABINET. Murray M. Pibus, Youngstown, Ohio. Application Jan. 7, 1942, Serial No. 425,881. 1 Claim. (Cl. 220—14.)



In a cooler cabinet of the class described wherein a plurality of containers are positioned, a pair of top members having downwardly depending flanges formed adjacent the outer most edges thereof adapted to engage the innermost edges of the said cooler cabinet to prevent outward movement of the said top members with respect to the said cooler cabinet matching oppositely disposed openings formed in the said top members and adapted to surround and enclose the said chambers, and gaskets formed with downturned annular flanges positioned on each of the said chambers, the said downturned annular flanges being positioned between said chambers and the said top portions, and held in distorted form therebetween by the said top members.

2,327,631. COOLING AND DISPLAY STAND. Murray M. Pibus, Youngstown, Ohio. Application Jan. 9, 1943, Serial No. 471,898. 2 Claims. (Cl. 211—74.)



1. A cooling and display stand comprising a tiered structure having a plurality of surface levels, a plurality of openings formed in the said surface levels and means located beneath each of the said openings, in the structure, for supporting bottles partially positioned in the said openings, means located in each of the said openings and adapted to position the bottles therein, said means comprising a collar-like structure having an annular flange formed thereon and provided with vertically positioned rib structures in its inner surfaces so as to position the bottle and form an air passageway between the gasket-like structure and the bottle.

2,327,649. REFRIGERATING APPARATUS. Lloyd M. Keighley, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application March 12, 1941, Serial No. 382,977. 5 Claims. (Cl. 62—102.)

1. A dry bottled beverage storing and refrigerating apparatus comprising in combination, a cabinet having a bottom, side and end walls forming an elongated open top compartment therein, a door or doors normally closing the open top of

(Concluded on Page 19, Column 2)

CLASSIFIED ADVERTISING

RATES for "Positions Wanted," 5¢ per word; minimum charge, $2.50. Three consecutive insertions, 12½¢ per word; minimum charge, $6.25.

RATES for all other classifications, 10¢ per word, minimum charge, $5.00 per insertion. Three consecutive insertions, 25¢ per word, minimum charge, $12.50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count.

EQUIPMENT FOR SALE

COMPLETE ⅓ H.P. Highside, less motor $15.00; Carbon Tetrachloride, 5 gallon, $7.00, container 50¢, ⅓ H.P. Finned Condensers $6.00; Frigidaire ⅓-½ H.P. Compressors $7.00; 4 tray Expansion Type Evaporators $10.00. All parts "as is"—running condition, F.O.B. EDISON COOLING, 310 E. 149th, New York.

65 CU. FT. REFRIGERTORS, reach-in style with five (5) solid doors, natural oak front, white enameled interior, completely self-contained with ½ HP. condensing unit and blower coil installed ready to attach to 110 volt electric service. Brand-new in original crates available for immediate shipment without priority to dealers and distributors. $415.00 net. F.O.B. midwest shipping point, 25% with order, balance C.O.D. or S.D. B/L. J. GEO. FISCHER & SONS, INC., SAGINAW, MICHIGAN, SINCE 1889.

ELECTRIC DRY bottle coolers, equipped with ¼-hp. Universal compressor, blower coil and vending machine. Plug-in job. $150 net. Streamlined ice coolers, 3-case capacity (12-oz. bottles) $23.50 net. All brand new. Streamlined. No priority. Box 1473, Air Conditioning & Refrigeration News.

USED TEMPERATURE recorders suitable for checking control-processes ranging from zero to 80 F. Recorders have 12" dials, 24 hour spring-wound clocks, wall mount aluminum-alloy cases, 5' flexible copper-armored capillaries, and ⅜" x 3" copper bulbs. No priority required. Further information and prices upon request. AUTOMATIC PRODUCTS CO., 2450 N. 32nd St., Milwaukee, Wis.

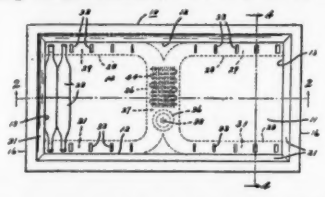
POSITIONS AVAILABLE

EXPERIENCED REFRIGERATOR serviceman, preferably one with knowledge of Stewart-Warner electric refrigerators, to work in large Florida city. Permanent position which will continue after the war. Ideal climate and pleasant working conditions. All applications treated strictly confidential. Box 1474, Air Conditioning & Refrigeration News.

Patents (Cont.)

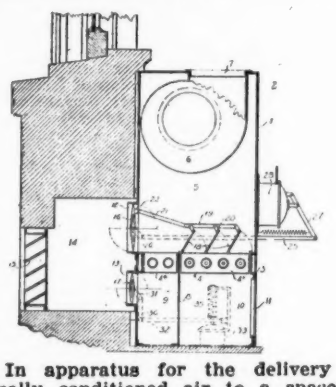
(Concluded from Page 18, Column 4)

said compartment, means cooperating with the bottom of said compartment and forming a duct system within said cabinet, said duct system including a chamber extending transversely across the bottom of said elongated compartment within the area defined by the vertical projection of said compartment side and end walls, said duct system including a first conduit extending longitudinally of the cabinet along



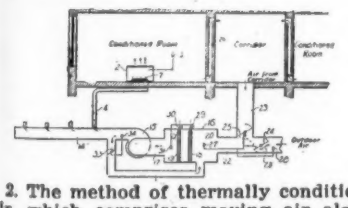
the bottom of said compartment, said first conduit communicating with said compartment and being connected to one end of said chamber, said duct system also including a second conduit extending longitudinally of the cabinet along the bottom of said compartment in spaced apart relation to said first conduit, said second conduit communicating with said compartment and being connected to the other end of said chamber, a cooling element of a refrigerating system disposed in said duct system forming means, means adapted to circulate air through said duct system forming means, and means for operating said circulating means to cause same to circulate air from said compartment through one of said conduits into said chamber and for forcing the air out of said chamber through the other conduit into said compartment whereby the air flows transversely across said elongated compartment.

2,327,663. HEATING AND VENTILATING APPARATUS. Gerald E. Otis, Moline, Ill., assignor to The Herman Nelson Corp., Moline, Ill., a corporation of Illinois. Application Dec. 6, 1940, Serial No. 368,763. 13 Claims. (Cl. 236—37.)



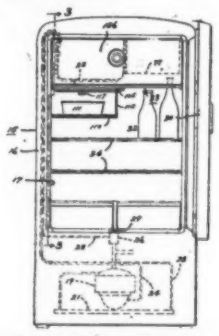
7. In apparatus for the delivery of thermally conditioned air to a space, a fan housing having two fresh air intakes and a recirculated air intake, heating means for heating fresh air passing through one of said fresh air intakes and through said recirculated air intake, operatively interconnected dampers for the other of said fresh air intakes and for said recirculated air intake, means responsive to the temperature in the space for controlling said interconnected dampers and means responsive to the temperature of said heating means for controlling the flow of air through said one fresh air intake.

2,327,664. METHOD OF AND APPARATUS FOR AIR CONDITIONING. Gerald E. Otis, Moline, Ill., assignor to The Herman Nelson Corp., Moline, Ill., a corporation of Illinois. Application Dec. 6, 1940, Serial No. 368,764. 2 Claims. (Cl. 257—3.)



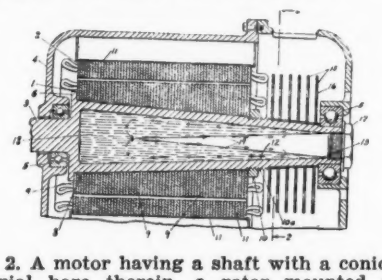
2. The method of thermally conditioning air, which comprises moving air along a confined path providing intakes into said path from a source of indoor air and from a source of outdoor air, thermally conditioning the intaken air at a point along said confined path, controlling the selection of the source and of the proportionate volumes of air taken in from said sources in accordance with the relative temperatures of the outside air and of the intaken air at a position ahead of said point of thermal conditioning but beyond the points of intake, advancing said conditioned air under a pressure head for delivery and by-passing any excess of such conditioned air over delivery demand back to said confined path ahead of said point of thermal conditioning so as to maintain said pressure head substantially constant.

2,327,672. REFRIGERATING APPARATUS. Edmund F. Schweller, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application April 16, 1941, Serial No. 388,838. 19 Claims. (Cl. 62—89.)



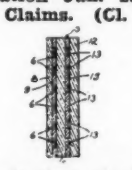
1. A refrigerating apparatus including a cabinet having walls defining a chamber therein provided with an access opening normally closed by a door, a partition cooperating with said cabinet chamber walls and with the inner face of said door dividing the cabinet chamber into an upper compartment and a lower compartment, said partition normally preventing communication of air between said compartments, a closed primary refrigerating system associated with said cabinet and including an evaporator disposed within said upper compartment at one side thereof and forming walls of a freezing chamber therein, means for cooling the interior of said lower compartment, means forming walls of a food storage chest within said upper compartment adjacent said evaporator, and resilient means acting between a wall of said cabinet chamber and one wall of the food storage chest for maintaining another wall of said chest in intimate thermal contact with a side wall of said evaporator.

2,327,786. COOLING METHOD AND APPARATUS. Ralph M. Heintz, Shaker Heights, Ohio, assignor to Jack & Heintz, Inc., Cleveland, Ohio, a corporation. Application Sept. 15, 1941, Serial No. 410,939. 3 Claims. (Cl. 171—252.)



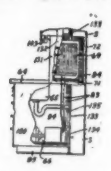
2. A motor having a shaft with a conical axial bore therein, a rotor mounted on said shaft and surrounding the larger end portion of said bore, cooling means on said shaft adjacent the smaller end portion of said bore, means for sealing said bore, and a cooling medium expansible by the running heat of said rotor, sealed in said bore.

2,327,918. HEAT REJECTING GLASS. Robert A. Miller, Tarentum, Pa., assignor to Pittsburgh Plate Glass Co., Allegheny County, Pa., a corporation of Pennsylvania. Application Jan. 23, 1941, Serial No. 375,583. 4 Claims. (Cl. 88—60.)



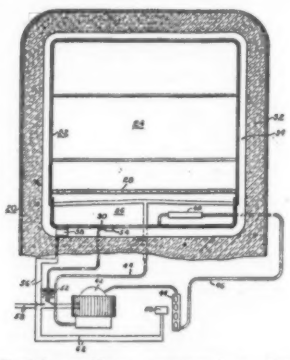
1. A heat rejecting glazing unit comprising a panel formed of a glass plate, horizontal bands of reflecting material arranged on one surface of the glass plate in spaced relation, a second plate of glass covering the banded surface of the first glass plate, a third plate of glass, having horizontal bands of reflecting material arranged on one surface thereof in spaced relation, said third plate covering the unbanded surface of the first glass plate, the horizontal bands of each plate being laterally in register, and interposed layers of plastic material uniting the glass plates.

2,328,130. METHOD OF ASSEMBLING MECHANICAL REFRIGERATORS. Guyon L. C. Earle, Forest Hills, N. Y., assignor to Genevieve M. Earle, Forest Hills, N. Y. Application Feb. 10, 1940, Serial No. 318,224. 3 Claims. (Cl. 62—89.)



1. The method of assembling at the site where it is to be used a mechanical refrigerator including a relatively deep lower portion having an opening in the upper part thereof, a relatively narrow upper portion having an opening in the lower part thereof of substantially the same size as the opening in said lower portion, and a sealed refrigerating unit including an evaporator unit, a liquefying unit and tubes for the flow of refrigerant between these units, without disassembling the tube connections between the evaporator and liquefying units, which comprises placing and securing within said upper portion said evaporator unit, positioning said liquefying unit outside of both of said portions of the refrigerator, placing the upper portion on the lower portion in such a way that the two openings coincide and the said tubes pass between said two portions, and securing said upper portion to said lower portion.

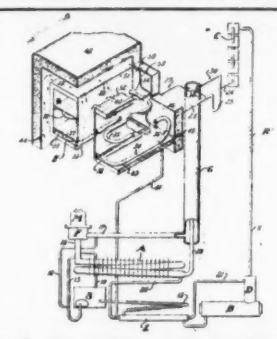
2,328,151. REFRIGERATING APPARATUS. Andrew A. Kucher, Oakwood, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application Oct. 28, 1940, Serial No. 363,033. 9 Claims. (Cl. 62—102.)



1. Refrigerating apparatus including liquefying means and evaporating means, each of said means including heat transfer means for interchanging heat with air outside of said means, and a vibrating reed-type fan means for circulating the air into heat exchange relationship with one of said heat transfer means.

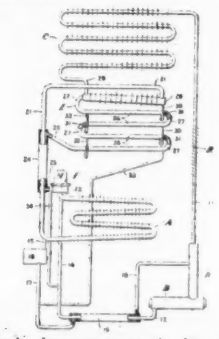
2,328,189. REFRIGERATION. George A. Brace, Winnetka, and Alfred G. Gross, Wilmette, Ill., assignors to The Hoover Co., North Canton, Ohio. Application Sept. 16, 1939, Serial No. 295,230. 24 Claims. (Cl. 62—99.)

1. Refrigerating apparatus including an insulated cooling chamber, a pair of laterally spaced freezing compartments



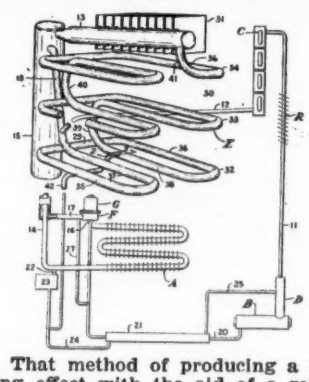
arranged in said cooling chamber on opposite sides thereof to provide an air circulation channel extending substantially the full depth of said chamber therebetween, and a cooling apparatus having a cooling unit in each of said compartments and a cooling unit arranged to refrigerate air flowing through said chamber and said channel.

2,326,195. REFRIGERATION. Curtis C. Coons, North Canton, Ohio, assignor to The Hoover Co., North Canton, Ohio. Application April 2, 1941, Serial No. 386,334. In Great Britain Aug. 20, 1937. 35 Claims. (Cl. 62—119.5.)



18. That improvement in the art of absorption refrigeration which includes the steps of circulating an absorbing solution between an absorbing zone in which refrigerant is added to the solution by contacting the same with a mixture of a pressure equalizing medium and refrigerant vapor and a generating zone in which refrigerant vapor is removed from the solution by the application of heat thereto, passing the vapor produced in the generating zone in heat exchange with cooling air to convert the vapor to liquid, supplying said liquid to an evaporating zone, circulating the pressure equalizing medium refrigerant vapor mixture through the absorbing zone and through the evaporating zone under conditions such that the liquid is distributed through the evaporating zone as it is evaporating into the pressure equalizing medium by the frictional drag exerted thereon by the pressure equalizing medium refrigerant vapor mixture flowing through such zone.

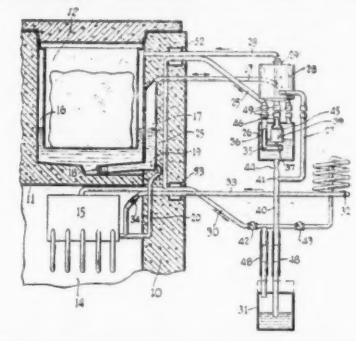
2,328,196. REFRIGERATION. Curtis C. Coons, North Canton, and William H. Kitto, Canton, Ohio, assignors to The Hoover Co., North Canton, Ohio, a corporation of Ohio. Application April 2, 1941, Serial No. 386,395. In Great Britain, Aug. 20, 1937. 38 Claims. (Cl. 62—119.5.)



15. That method of producing a refrigerating effect with the aid of a refrigerating system involving a source of refrigerant vapor liquefying means, an absorber, and an evaporating element having a passageway defining wall, which includes the steps of introducing refrigerant liquid into said passageway, circulating an inert gas through said passageway with sufficient pressure and velocity to bubble into and out of the liquid refrigerant and thereby to drag the liquid refrigerant through said passageway as it is evaporating into the inert gas to produce a refrigerating effect.

2,328,462. REFRIGERATING SYSTEM. David H. Killeffer, Crestwood, N. Y. Application Sept. 28, 1939, Serial No. 296,874. 12 Claims. (Cl. 62—91.5.)

1. In heat exchange apparatus of the refrigeration type the combination with a refrigeration chamber to be cooled of a receptacle adapted to contain a low temperature refrigerant, a condenser for a low boiling point refrigerant in heat exchange relation with said low temperature refrigerant receptacle, an evaporator to evaporate said low boiling point refrigerant by absorption of heat from said chamber, a circuit through which said low boiling point refrigerant can flow from the condenser to the evaporator and back to the condenser, means actuated by the expanding low boiling point refrigerant as it absorbs heat from the refrigerating chamber to cause inter-



mittent flow of the vapor of the low boiling point refrigerant from the evaporator to the condenser, said means including a chamber and a working liquid movable to and from said chamber and acting as a piston therein.

2,328,467. REFRIGERATOR. William J. La Casse, Duluth, Minn., assignor to The Coolerator Co., Duluth, Minn., a corporation of Minnesota. Application Nov. 6, 1939, Serial No. 302,999. 1 Claim. (Cl. 20—35.)

A refrigerator door including spaced parallel inner and outer metal walls, and a breaker strip which outlines a substantial portion of the marginal edges of the door, and a flexible sealing strip, said inner wall having an inwardly directed substantially right angle flange to which the breaker strip is permanently secured thereby forming a unitary inner wall and breaker strip, the latter thus having a free edge, said outer wall having a flange which is substantially at a right angle to the first mentioned flange and which flange is directed inwardly toward and spaced from the extreme free edge of the breaker strip, a one-piece supporting member, said supporting member being of substantially right angle construction and having a portion thereof engaging and paralleling the inner side of the second mentioned flange and continuing inwardly in the same plane and thus with the said inwardly directed flange portion of the outer wall forming a shoulder sealing strip and the said supporting member further continuing to its juncture whereat an inset channel is formed, and another portion of the said supporting member extending beneath the free edge portion of the breaker strip, the sealing strip consisting of a web portion and an enlarged sealing bead portion, the latter portion being co-extensive with and shaped to snugly engage the said shouldered seat and having a portion of the web thereof positioned in the channel of the supporting member and extending therefrom intermediate the portion of the supporting member beneath the breaker strip and the underside free edge portion of the breaker strip and in contact and co-extensive with both the said portion of the breaker strip and the last said portion of the supporting member, the extreme free edge portion of the breaker strip being positioned in the channel construction and contacting that portion of the sealing strip therein, and removable means for detachably securing the free end portion of the breaker strip, the said sealing strip and the supporting member together, whereby the inner wall with its permanently secured breaker strip is removable, thereby permitting ready replacement of a worn sealing strip.

Unable to complete publication of this week's patents in this issue, they will be continued in the next regular issue of the News.

Servel Promotes 5 Key Executives In Postwar Move

(Concluded from Page 1, Column 3)

however, will not detract in the slightest degree from our full concentration upon winning the war. But we can achieve abilities and capacities that will allow us to prosecute the war and plan for peace effectively and simultaneously. These new plans are designed to enable us to do that job most effectively."

The five promoted executives have been with the company several years. Mr. Newcomb joined Servel in 1934 to manage the electric commercial refrigeration division. In 1936 he became general manager of the electric and air conditioning divisions, and in 1942 was elected a vice president.

Mr. Townsend, who since 1942 has headed the firm's postwar planning committee, came to Servel in 1930 as comptroller. He was named secretary and treasurer in 1935. Mr. Schnakenburg joined Servel in 1913 as a cost accountant, leaving for service during World War 1. In 1919 he returned, becoming assistant to the comptroller a few years later. He became comptroller in 1935.

When Hercules Corp. was reorganized as Servel, Inc. in 1927, Mr. Hassee, cashier and chief accountant for Hercules, became a field auditor. In 1930 he was made chief accountant. Mr. Roberts joined Servel in 1934 on special assignments in the engineering department, becoming personnel director in 1935.

Clark to Manage New Westinghouse Dept. On 'Better Homes'

PITTSBURGH, Pa. — Irving W. Clark has been named manager of the newly formed "Better Homes Department" of Westinghouse Electric & Mfg. Co., announces B. W. Clark, vice president in charge of sales.

Immediate function of the new department, according to B. W. Clark, will be to coordinate the company's activities in helping to house war workers, though its long-range objective is to develop postwar housing markets "for the contributions which electricity is making toward better living."

A centralized advisory and consultation service for architects, engineers, builders, prefabricators, and home owners will be provided by the Better Homes Department, extending the home planning service inaugurated by Westinghouse nine years ago, said Mr. Irving Clark.

"The new department will serve as a clearing house and information center to report on housing equipment production and research carried on by several manufacturing divisions of the company," added Mr. Clark. "It will coordinate the company's production with the housing industry's need for such things as home lighting, wiring layouts, room coolers, electrical controls, complete kitchen and laundry plans, and the Precipitron."

Big market for the future, which Mr. Clark says will be carefully studied by the new department, lies in rural and suburban homes "which have been lifted out of the bare shelter classification by electricity and will be developed still further. Electricity has enabled the workman to get out of the congested city areas and enjoy such conveniences as adequate illumination, an automatic water supply, and electric home appliances."

Mr. Clark, who has been manager of the Home Building department of Westinghouse Electric Appliance Division since 1936, has been active in developing war housing programs with the government since Pearl Harbor. He is chairman of the Westinghouse company-wide housing committee and is a director of Producers Council, Inc., a group of building material and equipment manufacturers affiliated with the American Institute of Architects. He has been identified with home planning and building for nearly 25 years.

Boston Conference To Meet Oct. 18, 19

BOSTON — All topics will center around "Planning for Business in the Postwar Era" when the 15th annual Boston Conference on Distribution meets at Hotel Statler here Oct. 18 and 19, according to Daniel Bloomfield, director.

Open to all who are interested in following economic trends affecting business, the program is designed to give business men an appraisal of what is being done by various groups and individual business concerns to meet the problems immediately following the end of the war, Mr. Bloomfield said. A number of distinguished speakers will participate.

L. A. CLARK (left) was recently appointed assistant general sales manager of Frigidaire Division, General Motors Corp., according to an announcement by P. M. Bratten, general sales manager. Formerly advertising and sales planning manager, Mr. Clark will now be responsible for all advertising, sales promotion, training. and other related activities.

H. F. LEHMAN (right) has been named assistant general sales manager in charge of appliance and commercial sales and service departments. Before this promotion Mr. Lehman managed the Frigidaire commercial and air conditioning sales division.